

# MANUFACTURERS' RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

VOL. 7. No. 21  
WEEKLY.

BALTIMORE, JULY 4, 1885

\$3.00 PER ANNUM.  
SINGLE COPIES, 10 CENTS.

—MANUFACTURERS OF— **JAS. SMITH & CO.** —DEALERS IN—  
**CARD CLOTHING** **Manufacturers' & Mill Supplies**  
Of Every Description. Works, 413 to 421 Race St., Cor. of Crown. Of Every Description.  
**COTTON and WOOLEN MACHINERY.** Office & Store, 137 Market St., Philadelphia.

**INDIANAPOLIS TERRA COTTA CO.**

**INDIANAPOLIS, IND.** Office, Fletcher & Sharpe's Block, Ind'olis.  
Works, Brightwood, INDIANA.

**WILLIAM F. STILZ,**  
President.

**G. L. DICKENSON,**  
Secretary and Treasurer.

**JOS. JOINER,**  
Superintendent.

Manufacturers of All Kinds of  
**TERRA COTTA.**

Send for Estimates, Catalogues and Samples.

**ELEVATORS**

Send for Illustrated Circulars.

**MORSE ELEVATOR WORKS.**  
**MORSE, WILLIAMS & CO.** Successors to CLEM & MORSE.

Manufacturers and Builders of HYDRAULIC STEAM, BELT and Hand-Power, PASSENGER and FREIGHT **ELEVATORS** With most approved Safety Devices.  
Office: 411 CHERRY STREET, Dumb-Waiters, Automatic Hatch-Doors, &c.  
Works: FRANKFORD AVE., WILDEY & SHACKANAXON STS. PHILADELPHIA, PA.  
—Branch Office, 108 Liberty Street, NEW YORK.



"ECLIPSE" "STRAIGHT LINE"  
**ROCK DRILLS, AIR COMPRESSORS,**  
Machinery for Tunneling, Grading, Mining, Quarrying, etc.

TEN COMPLETE TUNNELING PLANTS FURNISHED FOR SOUTH PENNA. RAILROAD, PA.

FOR CATALOGUES, ESTIMATES, &c., ADDRESS,  
**INGERSOLL ROCK DRILL CO., 10 Park Place, N. Y.**  
**MORTON, REED & CO., Agents, Baltimore.**



**STANDARD COAL CO.**

MINERS AND SHIPPERS OF

**JELLICO MOUNTAIN COAL** 56 Clinch Street, - - - Knoxville, Tenn.

SCREENED LUMP COAL for steam and machinery purposes a specialty.  
For prices and freights, address

**E. E. McCROSKEY, Prest.**

J. A. J. SHULTZ, President.

B. C. ALVORD, Secretary.

**SHULTZ BELTING COMPANY, ST. LOUIS, MO.**

Manufacturers of Shultz Patent Fulled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide fulled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other Belt. It does not pull out at the laceholes or rivets. It stretches less than any other Belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.  
Southern Agents—FRED. N. OGDEN, New Orleans, La. J. H. COFFIN & CO., Memphis, Tenn. J. L. LINDSAY, Richmond, Va.

NEW YORK. ♦ CINCINNATI. ♦ SAN FRANCISCO.

**AULT & WIBORG,**

—MANUFACTURERS OF—

**BLACK \* AND \* COLORED \* PRINTING \* INKS,**

\* Lithographic Inks and Varnishes, \*

CINCINNATI, OHIO.

**Eastern Branch, 21 and 23 Ann Street, - - - NEW YORK.**

—R. H. C. VALENTINE, Manager.—

**Amberg's "PEERLESS" Cabinet Letter File**

The small cut shows one of the Files or Drawers of a Cabinet. The index in each File has 26 divisions, giving as many spaces or compartments for separating the papers, thereby assuring quick access to any letter when wanted.

**OVER 6,000 IN USE.**

These Cabinet Letter Files are made in many sizes, ranging from the smallest of six Files to those of one hundred or more. As lately improved, they combine all the desirable points wanted in a complete Letter File; are elegantly and substantially made, the wood-work being of the best seasoned Black Walnut, veneered, with fittings of brass and steel, nickel-plated. They can be arranged for any class of correspondence, and adapted to any requirement.

Illustrated Catalogue on application to

**CAMERON, AMBERG, & CO., Sole Manufacturers,**  
69 Duane Street, New York. 71 & 73 Lake Street, Chicago. 27 Little Britain, London.

—ESTABLISHED

1774.—

**FLOURING****MILLS.**

BUHRS 1774.

ROLLS 1882.

This Company owns and operates three Mills, as follows:

Patapsco Mill A, Ellicott City, Md. Patapsco Mill B, Baltimore, Md.  
Patapsco Mill C, Orange Grove, Md.

—Having a daily capacity of 1,500 barrels.—

The value of Flour depends on the proportionate quantity of Gluten, Starch, Sugar and Phosphate of Lime. Maryland and Virginia Wheat, from which our Patent Roller Flours are manufactured, is unequalled for its purity and superior quality of alible properties.

**ASK YOUR GROCER FOR**

Patapsco Superlative Patent. Patapsco Choice Patent. Patapsco Family. Cape Henry Family.  
Patapsco Extra. North Point Family. Chesapeake Extra. Bedford Family. Orange Grove Extra

**C. A. GAMBRILL MFG CO.**

Office, 32 Commerce St., Baltimore, Md.



Send for Catalogue.  
Chandler & Farquhar,  
168 Devonshire St.  
BOSTON, - MASS.  
Tools & Supplies  
for all classes  
OF MECHANICS AND  
MANUFACTURERS.

**OIL & MACHINERY FOR SALE.**

Six Taylor Presses and Preparing Machinery; can be seen running and must be removed by August 1; will be sold at almost buyer's price. Address

A. B. Lawther, 118-120 N. Market St., Chicago.



A GOOD AGENT WANTED IN EVERY CITY FOR THE

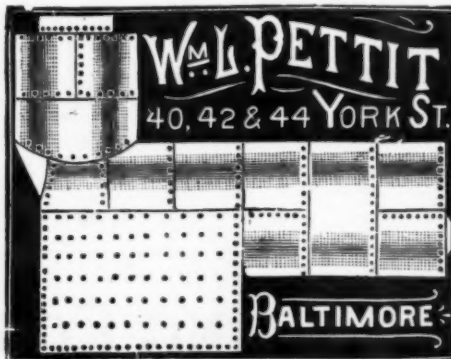
**ROYAL MAIL****Light Roadster, 36 Pounds. Tied Tangent Spokes, &c.**

No other wheel in the world holds two as fast records—one mile by Prince, 2.39; one mile by James, 2.39. Also, Whittaker won 100-mile road record on Royal Mail. In great demand. Where one is shown many orders follow. We offer it as the Highest Quality Wheel in the market. Also Royal Mail Tricycles, Boys' Bicycles, &c. Send stamp for full descriptive circular.

**WM. READ & SONS,**

Sole Agents for America,

107 WASHINGTON STREET, BOSTON.

**NOVELTY BOILER WORKS.**

MANUFACTURER OF

HIGH AND LOW PRESSURE

**Steam Boilers,****Tank and Sheet Iron Work.**

Estimates furnished for New Work and Repairs.

I make a specialty of SCOTCH BOILERS, the most economical in fuel, requiring very little repairs.

**PORTABLE FORGES**

Empire Portable Forge Co.  
Cohoes, N. Y.  
Send for Catalogue.

FEBRUARY 4, 1885.

MESSRS. WILLIAM READ &amp; SONS:

Gentlemen—I cheerfully give my opinion of the ROYAL MAIL, which I rode in all my races last year, and won the world's record—2.39. I think it the finest made, strongest and stiffest machine I ever rode. I have ridden nearly all makes, but find the ROYAL MAIL the best I ever crossed yet.

Yours respectfully,

JOHN S. PRINCE,  
Champion of America, and One-mile Champion of the World.

Reliable Firms desired for Agents of this Favorite Wheel.



# SACO WATER-POWER MACHINE SHOP,

—BIDDEFORD, MAINE,—

Manufacturers of

## COTTON \* MACHINERY

OF THE MOST IMPROVED PATTERNS.

### CARDS,

Cylinders, 36x36 and 36x30, with 20 tops and Self-Strippers and Railway Troughs. Union Cards, with workers, strippers and tops.

### FINISHER RAILWAY HEADS.

DRAWING FRAMES, ANY LENGTH, WITH 3, 4 AND 5 LINES OF STEEL ROLLERS.

English Slubbers and Fly Frames, With Long or Short Bolsters.

### BOBBINS—12x6, 11x5½, 10x5, 9x4½, 8x4, 7x3½, 6x3, and 5x2½.

RING SPINNING FRAMES, 2, 1½, 1¼ AND 1½ INCH RINGS.

### TWISTERS.

SELF-ACTING MULES, Parr, Sharp and Roberts' and Higgins' Pattern,

1½, 1 5-16, and 1¼-inch Gauge.

S. W. RICHARDSON, Treasurer,

No. 1 Simmons Building, Boston.

JAS. H. McMULLAN, Agent,

Biddeford, Maine.

ESTABLISHED

POOLE & HUNT,

—1851—

## Founders and Machinists.

POOLE & HUNT'S

## LEFFEL \* TURBINE WATER \* WHEEL,

Prices as Low as any

other First-Class Wheel.

Machine \* Moulded

### MILL GEARING.

Our plant for the production of MACHINE-MOULDED MILL GEARING is unequalled in the country, and we are prepared to fill orders with dispatch and at GREAT SAVING IN COST OF PATTERNS.



### Shafting, Pulleys, HANGERS, PEDESTALS.

SHAFTING, PULLEYS, HANGERS and COUPLINGS, of latest and most approved designs.

N. B.—Shipping facilities the best in all directions.

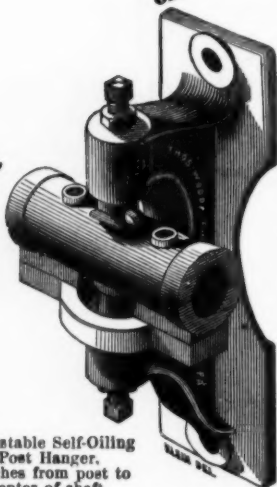
Send for Pamphlet. Send for Price-List.

List of our Gear-  
ing Mailed on  
Application.

POOLE & HUNT, BALTIMORE, MD.



ADJUSTABLE SELF-OILING HANGER.

Ball and Socket  
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE  
SELF OILING HANGER.Adjustable Self-Oiling  
Post Hanger.  
6 inches from post to  
center of shaft.

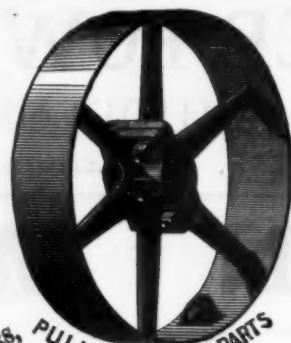
**FAIRMOUNT MACHINE WORKS.**  
Office, 2106 Wood St., Philadelphia.  
**THOMAS WOOD,**  
Manufacture as Specialties

Power Looms, Patent Bobbin or Quill  
Winding Machines, Flans and Presses  
or Spooling Machines, Reeling,  
Warp Spinning, Dyeing, Sizing,  
Scouring, Filling and Cal-  
endering Machines.

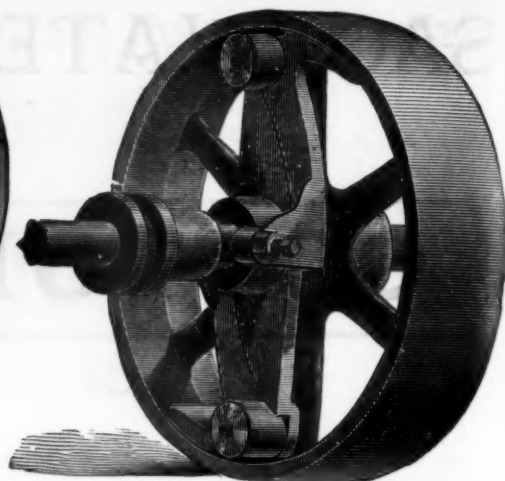
**WARPING MILLS,**  
16, 18 and 20 yards Circumference,  
WITH IMPROVED HECKS.

**SHAFTING,**  
With Patent  
ADJUSTABLE SELF-OILING HANGERS, PULLEY IN TWO PARTS  
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.

Also WALL, POST AND GIRDER HANGERS.  
Pulleys, from 4 inches to 10 feet in diameter.  
**PATENT FRICTION PULLEY.**  
Pulleys in two parts, any size required.  
PATENT HOISTING MACHINES.  
Oil Presses for Lard, Fish and Paraffine.



PULLEY IN TWO PARTS

**PATENT FRICTION PULLEY.**

Simple, reliable and very durable.  
Suitable for any kind of driving, they  
serve equally well as driver or driven.

**Special Driving,**  
such as Angular, Muley, and Gallows Driving,  
furnished for any position  
where possible to transmit power by belts.  
**PULLEYS** from 4 inches to 10 feet in diameter.

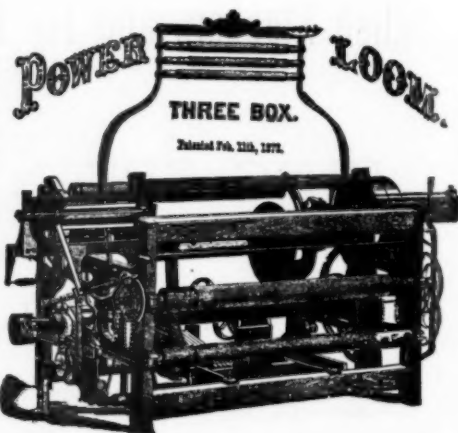
Why use old style Bearings, that require oiling  
every day, when you can get Bearings at less cost  
that only require oiling once in Six Months, and  
thus save oil and labor enough to pay for the bear-  
ings in use. Test the matter for yourselves; a  
trial always secures the trade.

ADDRESS,

**THOS. WOOD,**

Office, 2106 Wood St.

PHILADELPHIA, PENNA., U. S. A.



# TIRRILL'S EQUALIZING GAS MACHINE!

Only Gas Machine

that makes

**UNIFORM****GAS.**

No Fire,

No Smoke,

No Smell.

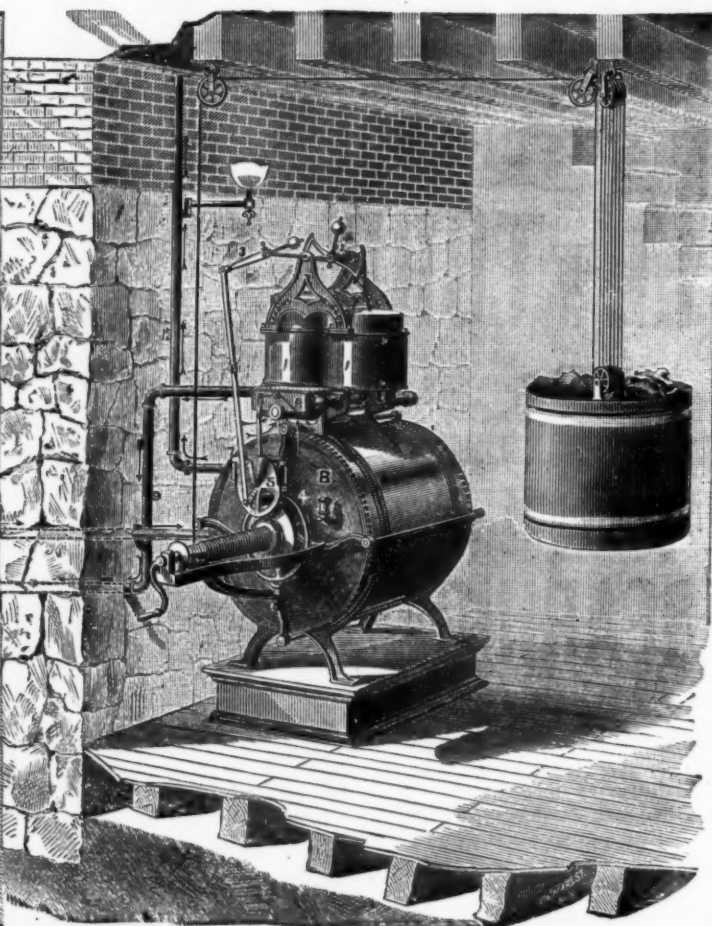
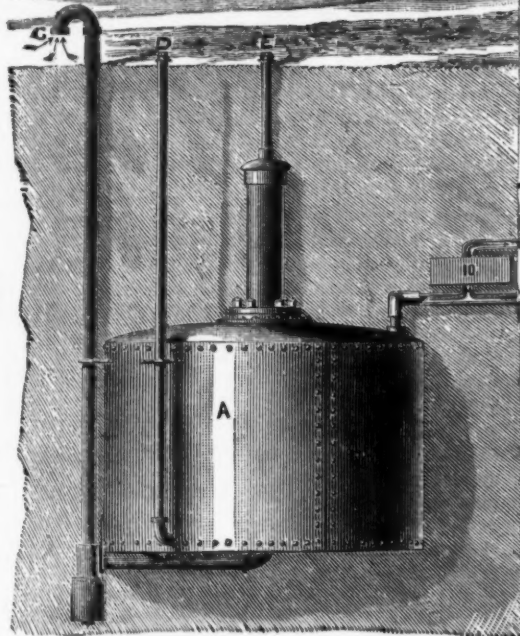
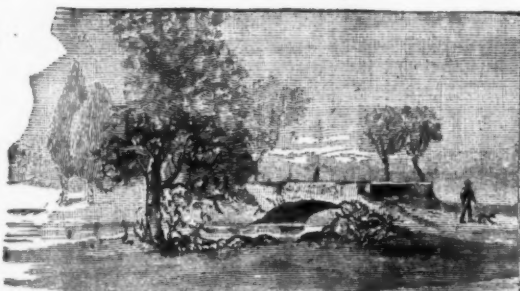
Plain Bat Wing

Burners only

Required.

GAS ALWAYS

Perfect.



Less than \$1.  
Per Thousand  
Feet.

Machines of any  
**CAPACITY.**

Read Circulars  
Before Buying.

Simple,  
Perfect,  
and Reliable.

**Absolutely  
Safe.**

Approved by  
Underwriters.

Read who en-  
dorses Them.

FOR CIRCULAR AND FULL INFORMATION, ADDRESS:

**TIRRILL'S GAS MACHINE CO., 39 Dey St., New York, N. Y.**



**HOWARD & BULLOUGH, & RILEY,**

BUILDERS AND IMPORTERS OF

**COTTON MACHINERY.**

ALSO, IMPORTERS OF

Wool, Worsted and Flax Machinery and English Card Clothing. Hardened and Tempered Steel Wire a Specialty.  
MILL ENGINEERS.

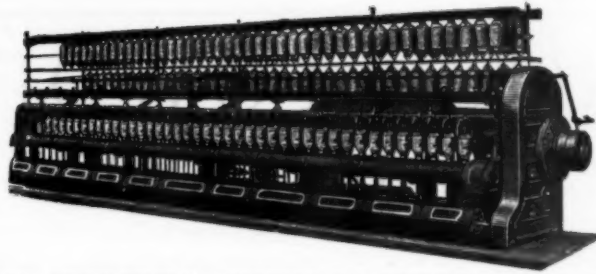
No. 19 PEARL STREET, BOSTON, MASS.

GREAT SUCCESS OF OUR  
**PATENT ELECTRIC STOP-MOTION,**ALREADY APPLIED TO OVER  
9,000 DELIVERY HEADS OF DRAWING, AND  
62,000 INTERMEDIATE ROVING SPINDLES.

The quality of Sliver produced by our Frames surpasses all others, and Waste, Single and Roller Laps are prevented, and production increased.

Correspondence Solicited.

Send for Circulars.



SPECIALTIES:

EXHAUST OPENERS, LAPPERS, (LORD'S EVENERS,) IMPROVED ROLLER CARDS, PRODUCE MORE AND MAKE LESS WASTE THAN ANY OTHER.

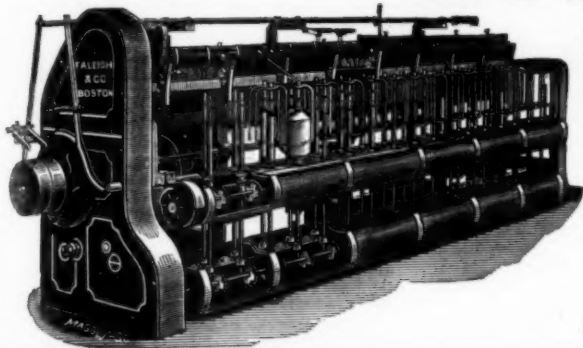
7,000 SELF-STOPPING WARPERS. Already working with latest improvements.

800 CYLINDER SLANERS. Now at work in America alone

Patent and plain Spindle, Spinning and Twisting Frames, Spoolers, Reels and Circular Warpings, Cloth Folders, Size Kettles plain and Fancy Looms, Spindles, Flyers and Fluted Rolls.

**SLUBBING AND ROVING FRAMES WITH LATEST AND BEST IMPROVEMENTS.****F. A. LEIGH & CO.****Importers of Mill Machinery,**

—No. 40 WATER STREET, BOSTON, MASS.—



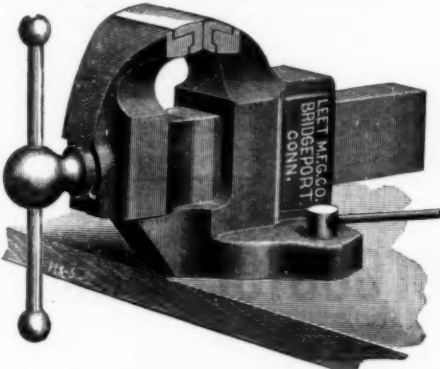
Openers, \* Lappers, \* Cards, \* Drawing,

*Slubbing and Roving Frames,*

CARD CLOTHING, Etc.

Correspondence Solicited.

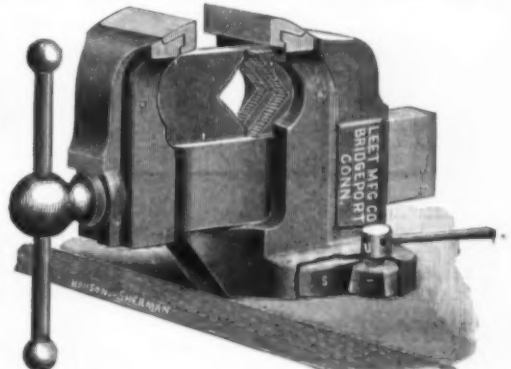
Send for Circulars.

**THE LEET M'FG CO.'S  
Patent Sliding Jaw Bench Vises.**

WITH SWIVEL BOTTOM.

These Vises can be used either as a Sliding Jaw or a common Screw Vise by simply turning in or out the small screw in backside of the head or base. It will hold work with a more powerful grip than any other Vise. The screw will never work loose when either chipping or filing. The workmanship is perfect: all the working parts are made of steel and interchangeable. Sold by all Hardware Dealers. Send for Descriptive Circular and Price List to

C. D. LEET, Bridgeport, Conn.

**Buerk's Watchman's Time Detector.**

—IMPORTANT FOR ALL LARGE CORPORATIONS AND MANUFACTURING CONCERNS.—



Capable of controlling with the utmost accuracy the motion of a watchman or patrolman as the same reaches different stations of his beat. The instrument is complete in itself, portable, and as reliable as the best lever watch. It requires no fixture or wires communicating from room to room, as is the case with ordinary watch clocks.

The Instrument will in all Cases be Warranted Perfect and Satisfactory.

P. O. Box 2470.

J. E. BUERK, Proprietor, No. 230 Washington St., BOSTON, MASS.

**BILLINGS' PATENT BREECH-LOADING SINGLE BARREL SHOT GUN.**

Provided with Close Shooting Detachable Muzzle for contracting the shot.

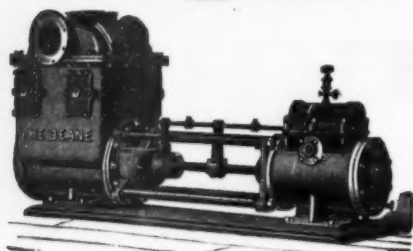


Uses the "A" Brass or Paper Shells.

MANUFACTURED AND FOR SALE BY

**THE BILLINGS & SPENCER CO.,**  
HARTFORD CONN.

# THE DEANE STEAM PUMP CO., HOLYOKE, MASS.



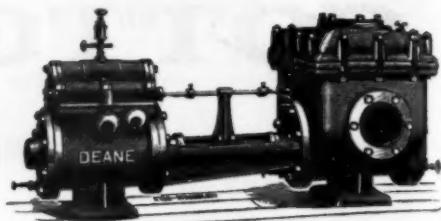
MANUFACTURE  
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

SEND FOR NEW ILLUSTRATED CATALOGUE.



## RENDROCK POWDER COMP'Y,

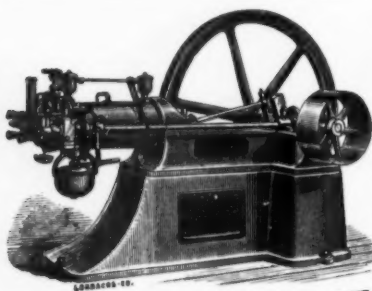
MANUFACTURER OF THE INGREDIENTS  
OF THE NEW PATENT BLASTING POWDER:

### RACKAROCK.

IT CONTAINS NEITHER GLYCERINE NOR  
NITRO-GLYCERINE IN ANY FORM.

It Does Not Freeze. Can be shipped by express, railway or steamship lines. Neither of the two ingredients are explosive until combined, and when combined are safer than Dynamite. This explosive approximates Nitro-Glycerine in strength. Send for circulars to

RENDROCK POWDER CO., 23 Park Place, New York.



Over 14,000 in Use.

## Otto Gas Engine

20 to 70 per ct. less Gas  
consumption than  
ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

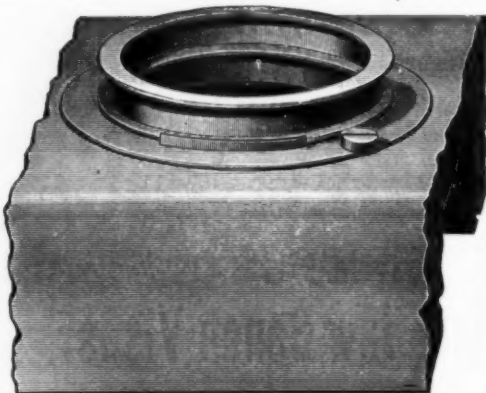
Branch Office, 214 Randolph St., Chicago.

SCHLEICHER, SCHUMM & CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

## DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,  
HOPEDALE, MASS.

TELEGRAPH ADDRESS AND RAILROAD STATION,  
MILFORD, MASS.



	Number of Rings sold.	Number of Rings sold for repairs.
1869.....	6,003.....	
1870.....	20,258.....	
1871.....	38,648.....	
1872.....	94,264.....	12
1873.....	117,301.....	
1874.....	168,389.....	500
1875.....	223,924.....	953
1876.....	185,319.....	947
1877.....	270,811.....	946
1878.....	215,214.....	3,309
1879.....	336,918.....	8,007
1880.....	567,860.....	11,264
1881.....	659,730.....	6,974
1882.....	636,715.....	22,515
1883.....	416,500.....	21,689
1884.....	319,869.....	25,105
1885, 5 mos. 112,522.....	12,116	
Total number sold in 16 years.....	4,390,260	116,349
Total number in use 4,273,911.		

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

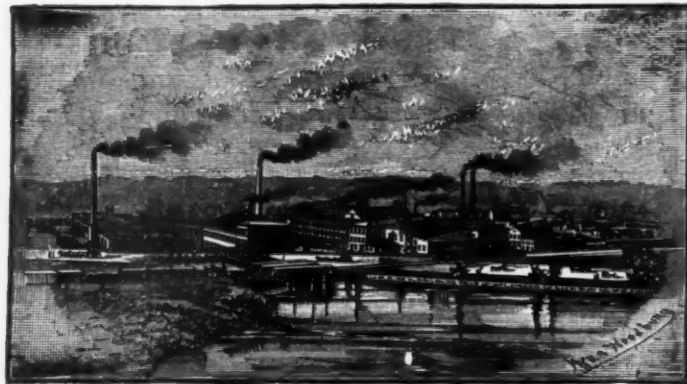
This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we have decided to reduce the price on and after the first day of January, 1885, of those 1 1/2 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

## Washburn & Moen Manufacturing Co., Worcester, Mass.

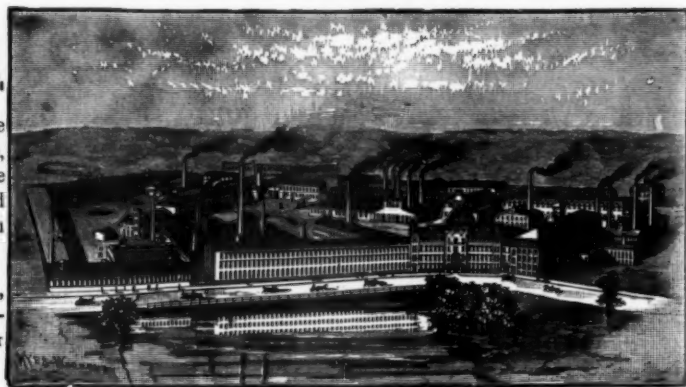
Wire Drawers, and Manufacturers of Iron and Steel Wire of Every Description.



Iron and Steel Telegraph  
and Telephone Wire.

Patent Steel Wire Bale  
Ties, Pump Chains,  
Chain Wire, Steel Wire  
for Springs, Needles and  
Drills, Watch Main  
Springs.

Send for Price-Lists,  
Circulars and Descriptive  
Pamphlets on Our  
Specialties.



NEW YORK WAREHOUSE:  
21 Cliff Street,  
New York City.

## GLIDDEN PATENT STEEL BARB WIRE.

The Best Fence Material in Use.  
For Sale by Special Agents and Hardware

Proof against Fire, Wind and Flood.  
Dealers in all Parts of the United States.

CHICAGO WAREHOUSE:  
107 Lake Street,  
Chicago, Illinois.



CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.



## Educational Manufacture.

### How Georgia Does in Her Higher Range of Education, Black and White.

SOUTHERN OFFICE,  
BALTIMORE MANUFACTURERS' RECORD,  
ATLANTA, GA., June 22, 1885.

During the last two weeks I have been engaged in an official visitation of the two leading white and colored educational institutions of the State, each of which receives \$8,000 a year from the State treasury. These are the State University at Athens, Ga., founded by the General Assembly a century ago, and the Atlanta Colored University, created by private philanthropy 17 years back.

The law authorizes the Governor to appoint a board of visitors of 10 gentlemen of character and culture, who shall attend the closing examinations of the colleges, and make report to the executive, to be submitted to the General Assembly, of the scholastic results of the universities. I was on the board last year, and also this year, serving as chairman of the present body.

The State University has 6 departments, consisting of the university proper at Athens, the medical college at Augusta, and 4 branch colleges of agriculture and mechanic arts at Dahlonega, Milledgeville, Thomasville and Cuthbert. The whole attendance of pupils is between 1,200 and 1,300, of which there are 200 at Athens, 135 at Augusta, 300 at Dahlonega, and the rest divided between the other points. The Athens University, besides the regular literary course, has a law school, a parliamentary law department, a school of practical agriculture, with an experimental farm, a school of practical engineering and railroad building, and schools of practical chemistry and physical science, with extensive laboratories of instruments and apparatus. It is hoped soon to have a school of practical mechanics, teaching work in wood and metals.

This university has a large and able faculty of professors at Athens, besides full corps of professors at each branch department. The methods of tuition are very thorough and progressive, while the standard of scholarship is high. The most advanced branches of an advanced curriculum are taught. The modern and ancient languages are taught.

The most valuable feature of this university, in the opinion of the board of visitors, is the technological education that is furnished. There are three branches of this practical instruction. The university can graduate young men able to build a railroad, run a farm or perform chemical analyses.

This venerable institution is under very fine discipline. The Chancellor of the University has inaugurated a plan of honor management with the finest results—a system that under the authority of command carries a constant reliance upon the honorable instincts of manhood. The sale of liquor has been abolished in the town of Athens, which removes all temptation from the boys to dissipation.

The Colored Atlanta University has about 300 students of all grades, the most of them in the grammar school. The yearly appropriation of \$8,000 to this colored institution, the same amount that is given to the white university, evidences the liberal spirit of our people to the blacks, and utterly negatives the idea so industriously circulated politically that the South does not treat the colored folks well. The colored pupils are well taught by a capable and painstaking faculty. Fully \$150,000 have been spent on the excellent buildings of this university—money donated by private parties and spent with admirable judgment and economy.

The problem of colored education has been one of the important ones in the South for test. The Southern whites have given a fair trial to it. The result is that the colored people have, as far as can be seen, shown a very excellent receptivity of educa-

tion. They learn slowly it is true, but still they learn pretty generally and in all branches. They demonstrate a desire for knowledge and industry, and capability of acquiring. The examinations were oral and brief, and, of course, confined to the brighter pupils in the short half hour allotted to large classes, but the results were creditable. And it must be said, in view of the fact that 20 years ago the blacks were hereditary slaves, universally illiterate, their progress in education is amazing.

The use that they will make of education remains to be seen. There is a large demand for colored teachers to educate the colored people, though as a general thing they prefer white teachers.

The Atlanta University has two technological branches for males, farming and carpentering, and two for the females, house-keeping and sewing. These departments are well run. The university has the Knowles building for wood-work and 17 sets of carpenters' tools, and the graduates are taught the use of tools and how to do every kind of wood-work. The boys are taught farming and take part in a competitive planting.

The difference between the white and black students is very marked. It shows heredity of talent and culture on the one hand and the opposite. The white mind is the more independent and original. The colored intelligence is imitative and susceptible to externals. It is less quick in reasoning than the white. The perceptive faculties are bright, the reflective duller. There is less thought and more obedience to drill and discipline.

The board of visitors expressed a profound interest in the enlargement of technological facilities of education. They felt that the South must have its own schools to educate its mechanics and physicists—its carpenters, miners, railroaders, mill managers, cotton and iron manufacturers, photographers, telegraph operators, engravers, stenographers, bookkeepers, pattern makers, &c., &c. These two universities, the one white and the other black, have made a beginning in this line. The Athens University has \$40,000 of practical apparatus. The movement must go forward. And it is one in which the readers of the MANUFACTURERS' RECORD can not but feel a profound interest.

I. W. AVERY.

### The Black Race of Alabama Prospering and Happy.

ASHEVILLE,

ST. CLAIR CO., ALA., June 24, 1885.

Editor Manufacturers' Record:

The negro population is not large in this county, although it has been augmented recently by the public improvements in the southern part of our territory. The blacks are usually well-behaved, and no trouble ever rises between them and the white people. They know their place and keep it. They have learned to regard the white people as their friends, and look to them for advice and direction. This is true in this county, and I believe the same condition of things exists throughout the entire State. The negroes are entitled to great credit for attending to their own business, and among them, of their own color, will be found good advisers and leaders. They find their confidence in their old masters, or their descendants, never misplaced, and to these they always go when in distress and trouble, or when engaged in any enterprise for their own benefit, where advice is wanted. And they know now where their help comes from—hence the ties of friendship between the two races are strong, and growing stronger. The blacks are improving in intelligence. Their educational and religious advantages are increasing, and in these they receive the greatest aid and encouragement from their white friends, who help them to build their churches and school-houses, and contribute largely to all their efforts of ameliorating

their condition. The negro knows this, and as he develops in his moral conceptions and mental acumen, he appreciates his position as a necessity, and accepts his relation to the whites under the law, having learned by sad experience that his hope of advancement and of safety is alone in his strict adherence to the present order of society and submission to the direction of the superior race. When not under the influence of bad advisers, the blacks have never come in conflict with the whites; and in Alabama—especially this part of the State—such advisers have left the country for the negroes' good.

There is no distinction here in the enforcement of the law against evil-doers, white or black; the blacks know that no discriminations are made, unfavorable to them, in this respect, on account of color or previous condition. They too often see their white friends suffering the same penalties of the law applied to those of their own race for similar violations. The records of the courts here will show that very few blacks are tried for violations of the penal code, and where such trials have occurred, they usually have been for minor offenses among themselves. Their character for peace, good order and sobriety can be successfully established by the records of the courts, and their progress in moral, religious and mental culture can be shown by the number of their church houses and school buildings, and the lively interest they now take in their own educational affairs.

The negro has been taught self-dependence, and in proportion as he learns this he advances to usefulness. It is pleasant to admit the fact that within the last few years he has been making considerable progress in this particular. While the big-mouthed philanthropist has been noising about the negro of the South, and the shrewd politician has been using him for the selfish end of personal notoriety and as a hobby to ride into office, the Southern white people, without any fuss and without the hope of gain or profit, except so far as the blacks could be made useful to themselves, and thus the labor and order of the South could be improved thereby, have taken hold of the culture of the black race, and the fruit of their efforts is manifest in the general improvement made by the negroes in quite a brief period. In this county alone there are a large number of farmers—who own their farms and stock—among them. Their organizations are conducted in a business-like manner by themselves, and their schools are taught by their own teachers.

I speak only for Alabama, and especially for this part of the State where I am thoroughly acquainted with the relations of the two races to each other, and I assert that the facts stated here, whatever may be said by designing persons to the contrary, are well established and true, and my object in the statements is to remove a false impression, current among well-thinking people in other sections, about the status of the blacks in the South, so far as this State is concerned, and to inform everybody who cares to know the truth that the white people here are fully alive to the fact that the condition of the negro is intimately connected with the progress and prosperity of the South. Investigation into the facts by any one really interested in the welfare of the black people will reveal the truth of what I have related, to wit:

1. That the utmost justice is meted out to the black population.
2. That the utmost confidence and harmony exist between the whites and blacks in their business transactions.
3. That the social condition of the blacks among themselves has been greatly improved within the past few years; and that the progress in their moral, intellectual and religious culture, within a comparatively short period, is very marked.

I do not hesitate to say now that impartial investigation of the subject will demonstrate

the fact, beyond all question, that the blacks of the South are rapidly becoming useful citizens and a law-abiding people, and, above all, that they are happy and contented, and with the wonderful improvement of this country that they are gradually prospering and progressing in their condition generally. The Southern people will settle the negro problem.

GEO. R. CATHER.

### Southern Pig Iron.

Editor Manufacturers' Record:

One of the great objections and difficulties encountered by the consumers of "Southern pig iron" has been the high percentage of phosphorous and silicon in the pig, causing the castings to be rotten and weak, and making mill iron difficult to work, and making cold short iron, will now in a measure be overcome by the use of the better classes of the rich hematite ores from the Anniston district, with the silicon fossiliferous ores of the Birmingham and Chattanooga districts. The mixture is found to improve the softness and strength to a marked degree.

The result is large shipments of iron ore from Anniston to Birmingham; while the cost of the iron is increased the makers are more than compensated by the improved quality.

The abundance of excellent rich ores in the Anniston district, producing iron of such excellence, will lead to the construction of coke furnaces and steel plant. The district certainly presents greater facilities for making good iron and steel, and making it cheaper than any point or district in the South.

MINING ENGINEER.

### Notes \* From \* Dixie.

BY CHAS. H. WELLS

Last week I took a run up to New York by the East Tennessee Air Line from Atlanta, and after my experience cannot see why every tourist going North from the Gate City does not take that line. The time is fast; the trains are clean; there is but one change of cars between Atlanta and Hagerstown, Md., from where there is a choice of two routes, one via "Western Maryland" to Baltimore, and one via "Cumberland Valley" to Harrisburg, Pa., and thence to New York. The East Tennessee Air Line passes through a high mountainous country where there is no dust at all—in fact, none of the tourists wear dusters. I am pleased to see that every day the E. T. V. & G. Railroad is making headway against all competitors, and is meeting with deserved success. It certainly proves its claim to be "the best, fastest, most comfortable line between Atlanta and the North."

While in Knoxville the other day, Major O'Brien, the general superintendent of the East Tennessee, Virginia and Georgia Railroad, quoted me some interesting figures to show how the road was gaining under the new receivership. The receipts of the road for the first week of June were \$33,540 as against \$18,780 during the same period in 1884. Major Fink, the receiver, is one of the best railroad men in the South, and with such able coadjutors as General Superintendent O'Brien, General Freight Agent Ogden and General Passenger Agent Wrenn, the E. T. V. & G. is bound to surpass all competitors; at present the road is running four through fast passenger trains every day between New York and Memphis, Tenn., and New York and Florida.

Our Southern friends who take a trip North this year should make a trip to Buffalo and Niagara Falls by way of the Lehigh Valley Railway, which goes through Mauch Chunk, the "Switzerland of America." Talk of your fast time! The other night I came over on their fast train—"the Comet"—and



she averaged a little over fifty-four miles an hour for one hundred odd miles, the run being made from Buffalo to Hornesville at a speed which beat the fastest record, 35 minutes in 93 miles! It is a good scheme to go to Niagara by way of the Lehigh Valley and then branch off at Elmira and take in the "Lake Region" of Central New York. It's amazing how much ground one can get over in two weeks and how much one can see.

I came back from New York to Charleston by the steamship "City of Atlanta," and want to say a good word right here in behalf of that delightful "tourist route." You leave New York Wednesdays and Saturdays and reach "the City by the Sea" (as Editor Dawson loves to call Charleston) in about seventy hours. Elegant meals are served on board the boat, the rooms are comfortable, and the voyage, especially at this season, is delightful. Captain Lockwood, of the City of Atlanta, is as genial a gentleman as one will meet in many a day, and the tourist who goes by his boat may be sure of good treatment and polite attention. The Charleston agents of this line are James Adger & Co., at Adger's wharf, Bay street; the New York agents are J. W. Quintard & Co., of 165 West street, opposite the company's wharf, at the foot of Park place.

A gentleman from Camden, Maine,—where they put up "mustard sardines," which are sold as imported fish, writes to know if oyster planting is extensively carried on in North Carolina and South Carolina. Unfortunately, it is not. Some time ago the Elizabeth City (N. C.) Economist printed a long article showing what fine results came from oyster planting, but the article was not productive of any large results. The inlets and coasts of the Carolinas offer advantages far surpassing those of Maryland, where there has, of late, been such a furore over oyster culture. It costs but little money to grow the bivalves and there is always a market. A fish dealer in Norfolk, Va., writes me that the city of Norfolk shipped \$400,000 worth of oysters South during the season of 1884-85, while the shipments of Baltimore must have been fully as large.

A dispatch, over the date of June 18th, to the New York Tribune, says: "A new and important railway line is under consideration by New York capitalists, and will be built at an early day. It will extend from Bristol, Tenn., to Mt. Airy, N. C., and thence to Danville, Va., connecting the East Tennessee Virginia & Georgia and the Norfolk & Western roads with the Cape Fear & Yadkin Valley and the Richmond & Danville. A line from Danville to Claremont, on the James river, is now building. When complete this line will be over 100 miles shorter than any existing route from Cincinnati to the Atlantic seaboard. The money to build the road from Bristol to Danville via Mt. Airy has been pledged." It is to be hoped this is true. The line from Danville to Claremont, referred to in the dispatch, has already been completed for fifty-five miles. The Cape Fear & Yadkin Valley people ought to encourage the building of the road from Mt. Airy to Bristol, and they probably will.

A North Carolina dispatch to one of the New York papers says that the dispatch published in the New York Herald, to the effect that the Warm Springs Hotel, recently destroyed by incendiaries, has been rebuilt and will accommodate 500 guests, is a canard, doubtless manufactured by the railroad to draw people there from Richmond and the low country. The hotel will not be rebuilt. Hundreds of people are coming to the springs only to learn that there are no accommodations. The insurance companies have not yet paid the losses upon the burned

buildings. I think it is hardly possible the Richmond & Danville people would descend to tricks of this kind to get passengers over their road. I met young Mr. Rumbaugh (whose father owns the property) and he says the whole place is for sale for \$40,000.

A new literary venture, of considerable pretensions, is to be launched in Atlanta at an early day. It will be an elegant 40-page illustrated monthly magazine, semi-literary, but devoted to Southern progress and development. Its motto: "Of the South, for the South, and by the South"—name "Dixie." The first issue appears August 15th. Offices in Constitution building, Atlanta—terms \$2 a year; single copies twenty cents. Among the regular contributors to the magazine are Paul Hamilton Hayne, Fanny Wallis Rhein-felder, Elizabeth Winslow Allderice, Samuel Noble, Donald Aylesworth Baine and Clement Mason. I am glad to know it has every assurance of success.

A magazine of this character has long been needed in the South, and I am quite sure it will be widely read at the North. Among the special articles which the managers announce in their prospectus, are "The New South," a poem by Mr. Hayne; "Among the Moonshiners"—illustrated—by Mr. Baine; an article on the tariff, by Mr. Noble, the founder of Anniston, Ala.; an article on the tariff, by Hon. Samuel J. Randall, of Pennsylvania; and an illustrated sketch entitled "Bits of Virginia Scenery," by Clement Mason. The orders already received for sample copies are large, and evidence an interest in the new publication.

In a number of Southern newspapers is agitated the subject of a new railroad from Savannah to Lumber City or Eastman, or some other wide-awake place on the East Tennessee, Virginia & Georgia Railroad. It is stated that a charter will be applied for at the July meeting of the State Legislature of Georgia. The road would give Savannah a closer connection with interior points than is now enjoyed, besides opening up a large territory, the trade of which Savannah could easily secure. It is not at all probable the Central Railroad & Banking Company, of Georgia, will sit quietly down and see this road built, since that powerful corporation has always gobbled up every enterprise that had Savannah for its objective point. If the road is built, it will be by local capital, and Savannah will have to come to the front with a pretty big sum of money to guarantee success.

#### DRIFTWOOD.

All communications with reference to "Dixie Notes" after July 1st must be addressed to me, "care rooms 12 and 13, Constitution building, Atlanta, Ga."—Lexius Henson, the popular colored restaurateur of Augusta, has purchased the building lately occupied by the Chronicle newspaper, and will convert it into a dining saloon and refectory. He paid \$14,000 for the property.—A new coal corporation has been formed in Augusta for the purpose of delivering coal to consumers at the fixed rate of \$6 per ton. The company will undertake to pay its stockholders a dividend. Last winter the Augusta dealers charged \$8 per ton for coal.—The communication of A. D. H., Port Jervis, N. Y., will be answered in "Dixie Notes" next week.—Knoxville, Tenn., has a live new daily paper, the Journal.—The "season" at Asheville is now in full blast, and the notables are arriving.

*If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.*

### A Mineral Empire.

W. E. Horne, of Turkey Heaven, Cleborn county, Ala., writing to the New Orleans Times-Democrat, says: "Turkey Heaven," the highest point of the Appalachian chain in Alabama, overlooks the gold fields of Abercouch, which yielded forty years ago three and one-half millions of gold.

From it to the northeast you can see Kenesaw Mountain, in Georgia, where Sherman with blood made the surface soils as crimson as the gleaming mineral oxides below.

Here, long dormant, in the very heart of the South, lies a mineral empire, and "Turkey Heaven," rising above the floating clouds below, will become to the incoming miners of the near future what Mount Hood, Shasta Butte and Pike's Peak were to the earlier miners of the Pacific. It will be a mining center, for from it northward in unbroken lines run the gold and silver-bearing veins, which, from erosions in the past, have flooded and enriched with disintegrated ores the fields and valleys below, while to the South the receding mountains, full to the brim with minerals, fade away from forests of green to mists of blue.

On the west stretch away undulating areas with countless seams of coal rimmed by mountain ranges of iron, which in quantity is so vast that the figures for measurement run into the measurelessly unknown! Here, where but a few years ago there was a barren plantation, Birmingham is busy with its coal, iron and limestone—a thing accomplished—and a city.

In the east, on the margin of this mineral domain, which, widening through Georgia, touches the borders of South Carolina and embraces all of Western North Carolina, is the Gate City of the South—the city of energies, Atlanta!

A mineral king will supplant in these mountain homes the ancient royalty of cotton. The miners' pick will dig in these hills graves for the old and pathways for the new. Cotton, the negro and the mule will migrate to the tertiary zone, lands formed in recent periods, full of fructifying humors, where the hot sun and shade, syren sisters, while broadening the fibrous leaf of cotton, woo to voluptuous slumber the African race.

An artery of gold, running through North Carolina, Georgia and Alabama, has been tapped only here and there, say at Dahlonga in Georgia, where there was once a mint; at Villa Rica, Abercouch and Blue Creek in Alabama, yielding immense sums from the loose sands and gravel. This was prior to the discovery of gold in California. The fissure vein and the stamp mill for crushing ores are of the present, not of the past.

Ruby silver in Alabama, a piece of which, imbedded in quartz, lies before me, is as bright as the burning jeweled eye of the scorpion.

Almost at my feet a fissure vein of gold feeds with broken quartz two streams which run away into the valley out of which, from a pit eight by ten feet, sixteen pounds of gold was taken.

A nugget of gold worth \$265 was found on the Allen place, where for years it has been the habit of the family to search successfully, after heavy rains, for large and small nuggets. It is said old Mrs. Allen really found \$3 worth of gold in a turkey's craw, though her place is not on "Turkey Heaven." A chimney, built in a crude way, after a heavy rainfall, showed a gleaming nugget worth \$13. A find of \$3,400 was made in a day by a dissipated miner, who was never sober afterward.

Silver and gold combined in true fissure veins are to be found running throughout the entire belt, assaying on the surface 16 ounces.

Mica and kaolin are found in ledges running parallel with the gold and silver veins. Mica is the most beautiful of all the minerals, and is found here in great abundance.

I have seen sheets perfectly translucent that would square 16 inches.

Talladega, a city of pleasant associations and bright citizenship, should be to this rich gold, silver, mica and kaolin belt what Birmingham is to the coal, iron and limestone. The gods seem to have made it, by special endowment of water facilities, a place for the manufacture of porcelain wares. She can command a limitless supply of the purest and whitest kaolin, samples of which took the premium at the Centennial of 1876 over the kaolins of China, Germany, England and France.

We pay over \$13,000,000 a year for foreign imported china which could be made at home.

A stamp mill has but recently been erected near Col. Steeds', in Clay county, Ala., for crushing gold ores, and others are to follow.

When your Exposition opens again the coming winter, Alabama can put on exhibition some very rare and rich ores—enough, at least, to suggest the wonderful richness of a mineral empire, the extent and value of which has been heretofore unknown.

### Thoughts on Boiler Explosions.

Nearly every day or two we read telegraphic accounts of boiler explosions. The cause is in many cases the fault of owners of mills—cheap labor. In all mills when first put up, the engineer or mechanic will run it for two or three weeks, or a month. Then the owner will pay him off and discharge him. The next thing the owner puts in the laborer or the firemen to do the work of the engineer. Everything goes well for some time. Then trouble begins. The engine is broken down. The owner sends to foundry for help. Next, the water gets low in the boiler; it leaks; the owner looks at it and his fireman don't know what caused it. The owner tells the fireman "that's not much of a crack. We will keep to work." The boiler leaks a little more; he has not time to fix it now. The fireman thinks it's all right. The next thing the boiler blows up and kills ten or twenty men, tears the mill all to pieces; loss \$10,000 or \$20,000. This is for not having a man that knows his business. It costs a little more money to employ a man who has served five or six years to learn a trade.

Machinery is like a man. It gets sick sometimes, and very sick when there is anything going wrong. It must be looked after immediately. Here is where the mechanic acts the doctor. He knows what part is wrong. He knows where to remedy the evil and does it right off. There is hardly one mill in twenty but is run by some laborer, or some one who knows only how to stop and start the engine; though these sort of men are friends for the foundry and boiler makers and blacksmiths. But it does not pay the owner of the mill in the long run. He has always his hands in his pockets, paying out often more than is taken in, for it is leaking out so gradually until he foots up his extra repairs for the year. Then he finds that he has paid out from \$1,000 to \$1,500. Not only that, but the machinery is all patched and looks as if it could not be made to move. There is another thing. He wants to sell. His mill cost \$10,000. I want a mill. I look at it. "What do you want for your mill?" "I'll take \$5,000 for it." I would say to him: "I would not give you \$1,000 for it. It is worn out."—Correspondent Mobile Register.

### A Big Brick Contract.

CINCINNATI, OHIO, June 28, 1885.

Editor Manufacturers' Record:

I notice in your issue of the RECORD dated 27th June an item stating that "Gatchel & Fox, of Louisville, Ky., have a contract to furnish 5,000,000 brick to a Cincinnati firm." I wish to state that the undersigned, Jonathan Creager & Son, brick machine builders at Cincinnati, O., have secured a contract with Proctor & Gamble to make for them, on their ground at Ivorydale, O., 5,000,000 brick, to be made with Creager's Grand Automatic Brick Machine, with Pug Mill attached. I have sold to Mr. E. B. Fox, of Louisville, Ky., one-half interest in the contract, which is now under way. By making the above correction you will oblige  
HARRY M. CREAGER.



# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

## ALABAMA.

F. Y. Anderson, Birmingham, Ala., has sold iron lands near Attalla, Ala., to parties who contemplate erecting a furnace.

A sash and blind factory is being completed at Union Springs, Ala., for C. H. Dudley & Son.

T. H. Carr, Montgomery, Ala., will add the manufacture of candies to his cracker factory.

The Manhattan Water Works Co., of New York, have, through their agent, W. G. Brockway, made a proposition to furnish water-works for Selma, Ala., to cost \$125,000.

Wm. Flesch, of Philadelphia, Pa., reported last week as prospecting in Birmingham, Ala., has, with Mr. G. W. C. Lomb, Birmingham, Ala., incorporated the Birmingham Stove Co., capital \$15,000, to manufacture stoves. Will erect a factory.

Extensive improvements are being made at the Huntsville, Oil Mills, Huntsville, Ala. Two car-loads of machinery have been received.

The Tennessee Coal Mines, near Birmingham, Ala., will increase their output from 30 to 100 tons a day.

Finley & Kennedy, Pollard, Ala., are building a cotton gin and grist mill.

A. Gimmel, of Montgomery, Ala., is in the North and will purchase new and improved machinery for his shoe factory.

## ARKANSAS.

Plans and specifications are being drafted for a complete system of sewerage at Hot Springs, Ark.

Extensive improvements will be made at the Pine Bluff Compress, Pine Bluff, Ark.

The contract for building the additions to the penitentiary, Little Rock, Ark., has been let to J. R. Miller at \$55,975. The contract for erecting the Institute building has been let to Martin Sinnott at \$38,750.

## FLORIDA.

Demens & Co., Longwood, Fla., will, it is reported, erect a saw mill at Altamont Station, Fla.

Dr. J. N. Bishop, J. F. Welborne, E. R. Trafford, Fay S. Phelps, R. H. Marks, Dr. B. F. Cory and J. E. Ludden, have incorporated in Florida the Sanford & Lake Eustis Railroad Co., to build a road from Sanford to Lake Eustis; capital \$100,000.

A large new engine has been purchased for the water-works, Jacksonville, Fla.

The Diamond Match Co., Chicago, Ill., have taken the Sanford Mill, Sanford, Fla.; will extend it 150 feet, and convert it into a palmetto fibre factory.

Alex. St. Clair Abrams, of Tavares, Fla., is in the North, and will make arrangements for refitting the saw and planing mill at Tavares with new machinery, as previously reported.

The Atlantic Coast, St. Johns & Indian River Railroad Co. will build a branch from main line to New Smyrna, Fla.

Work has begun on another canning factory in Apalachicola, Fla., by the company that is building the ice factory. B. T. Howland can probably give particulars.

Alexander Coen, Wheeling, W. Va., has completed a saw mill near Sanford, Fla., to manufacture orange boxes, lumber, etc.

It is reported that a two hundred room hotel is to be built at Crescent City, Fla.

Another saw mill is to be established in Plant City, Fla.

W. H. Barlow & C. C. Davis, of Longwood, Fla., will, it is reported, establish a moss factory near Lake Jesup.

The furniture factory previously reported as to be built in Welshton, Fla., is to be put up by Welsh's Furniture Factory Co.

The capital stock, \$50,000, of the Tampa Street Railroad Co., Tampa, Fla., previously reported, has all been taken.

Mrs. Field, of Boston, Mass., has contracted to build a hotel at Bayard, Fla.

## GEORGIA.

Wilson & Spangler have bought the planing mill of C. C. Buchanan, Waycross, Ga.

The Macon Cotton-Seed Oil Mills Co., Macon, Ga., have decided to enlarge their business and will erect a building for the manufacture of fertilizers, and also one for the manufacture of soap. Work will probably begin at once.

Jas. A. Lewis & Co. will establish a clothing manufactory at Columbus, Ga. Is now in the North negotiating for machinery.

W. P. Bussey & Co. have received a lot of new machinery for their planing mills at Barnesville, Ga.

There is some talk of starting a match factory in Barnesville, Ga.

Hamburger & Stafford, Barnesville, Ga., have added new machinery to their planing mills to manufacture furniture.

The Crompton Corset Co. have established a corset factory in Atlanta, Ga.

J. A. Atherton, Too Nigh, Ga., is erecting a new saw mill.

J. E. Ellis, Macon, Ga., whose planing mill was burned, as reported last week, (loss about \$8,000,) hopes to commence rebuilding in 30 days.

There is some talk of a \$40,000 hotel in East Rome, Ga.

## KENTUCKY.

The Long & Bro. Chair Co., Louisville, Ky., have sold their factory to a syndicate, represented by Wm. Kaye, for \$26,500. The new company has a capital stock of \$100,000.

The Louisville Bridge Co., Louisville, Ky., have secured the contract to build a bridge at Nashville, Tenn., to cost \$90,000.

J. A. & J. W. Wood, of Owensboro, Ky., has purchased a site in West Louisville, Ky., and will erect a grist mill.

Mitchell, Tranter & Co., Covington, Ky., have overhauled their machinery.

Harrodsburg, Ky., will decide by vote whether or not to have water works.

The Eureka Gas Co. have submitted a proposition to furnish gas to Maysville, Ky.

W. S. Johnson, John H. Barrett, Jr., P. J. Marrs, John O'Byrne and B. G. Witt have incorporated in Henderson, Ky., the Henderson Cotton Mills, to manufacture cotton goods. Capital stock not to be less than \$100,000 nor more than \$500,000.

## LOUISIANA.

Major J. M. Gillaspie intends to build a narrow-gauge road from his plantation near Newelton, La., to Hard Times Landing, La.

J. A. Blaffer will erect brick kilns at New Orleans, La., to cost \$6,000.

## MARYLAND.

Geo. B. Westcott has purchased the carriage factory of Geo. E. Lambert, Chestertown, Md.

Joshua C. Smith, Horace Stokes, J. Thos. C. Hopkins, Stevenson A. Williams and Frank H. Jacobs, of Harford county, Md., have incorporated the Susquehanna Flint Co., to mine and manufacture flint, feldspar and other minerals. Capital \$37,000, with principal office at Berkley, Harford Co., Md.

Edwin W. Darby has purchased and refitted the mill of A. J. Delashmutt, at Araby, Md.

Walter K. White has purchased the mill of W. H. Yingling & Son, Carrollton Station, Md., for \$4,800.

Henry Brusstar & Bro. have purchased of Jacob Tome, the Chesapeake Marine Railway on Philpot street, Baltimore, Md. New furnaces have been added to the engines, machinery overhauled, and parts of the railroad rebuilt.

R. Armiger & Son will erect a four-story brick factory, 33x70 feet, on Greenmount avenue, Baltimore, Md., and a four-story building, 50x73 feet, in the rear.

## MISSISSIPPI.

Steps are being taken to organize a stock company to light the streets of Biloxi, Miss. The mayor can give particulars.

Mattingly & Co., Vicksburg, Miss., previously reported as building a corn mill, have received a part of their machinery.

An effort is being made by Messrs. Addison Craft & Samuel Frank, Holly Springs, Miss., to organize a company to build a cotton mill.

The Mississippi Carding Co. have nearly completed their building and will soon begin the manufacture of batting at Meridian, Miss.

A handle and spoke factory has been started at Batesville, Mississippi.

Dan Phelan has purchased ground in Vicksburg, Miss., and commenced the erection of a two-story building to be used as a carriage and wagon manufactory.

## NORTH CAROLINA.

Joseph E. Pogue will establish a tobacco manufactory at Raleigh, N. C.

Mr. Hotchkiss is making arrangements to develop gold lands near Monroe, N. C.

A saw mill, it is reported, will be located at Asheboro, N. C.

John B. Killingsworth, of Yeatesville, N. C., will build a steam grist mill and gin at Bath, N. C.

B. H. Thompson, Aurora, N. C., has purchased a new mill.

The mill of Thos. Moore, near Snow Hill, N. C., has been damaged from \$3,000 to \$5,000.

An organization is being formed in Raleigh, N. C., either to build a tobacco factory or to encourage the starting of such an enterprise. The capital stock is to be \$10,000. W. C. Stronach, W. G. Upchurch and others have been appointed to ascertain cost of necessary machinery, &c.

The new grist and flour mill now being built by R. E. Jones, Goldsboro, N. C., will cost about \$5,000.

## SOUTH CAROLINA.

An oil and fertilizer mill has been organized in Anderson, S. C., with capital stock \$10,000.

It has been decided to rebuild the Roman Catholic Cathedral at Charleston, S. C.

A chinaware factory has been established at a cost of about \$10,000, at Miles Mill, near Columbia, S. C., by a Mr. Jervey, of Charleston, Mr. Cahill, of Edgefield, S. C., and others.

W. M. Coleman, Rocky Spring, S. C., has repaired his grist mill.

## TENNESSEE.

George F. Chidsey has secured an interest in a patent harrow, and will manufacture it at Viola, Tenn.

Dr. J. M. Bailey, representing a Boston, Mass., syndicate of capitalists, and W. D. Jones, of Philadelphia, Pa., will probably build the South Atlantic & Ohio Railroad from Bristol, Tenn., to Big Stone Gap, Va. This road will open up extensive coal and iron lands.

Extensive improvements are being made, and one hundred coke ovens will probably be erected at the Daisy Coal Mines, Daisy, Tenn.

St. Paul's Episcopal Church will build a new church in Chattanooga to cost \$40,000.

Loeb & Mook, 213 Main street, Memphis, Tenn., will establish a steam laundry in that city.

F. W. Wright, Elkhart, Ind., reported last week as negotiating with a view of establishing a saw mill in Chattanooga, Tenn., desires to locate in the South, but cannot do so until he can dispose of his present business.

C. Troup, Watseka, Ill., reports that his negotiations for the erection of a grist mill in Chattanooga, Tenn., have been dropped.

A creamery and cheese factory will probably be started in Gallatin, Tenn.

J. H. Howe contemplates building an ice factory at Nashville, Tenn.

## TEXAS.

A furniture factory is being projected in Beaumont, Texas.

The Hotel Bogel Co. has been chartered in Dallas, Texas; capital \$50,000.

The Brownwood Roller Mill Co., capital \$25,000, has been chartered in Brownwood, Texas.

Waxahachie, Texas, is talking of an oil mill.

The Jefferson Lumber Co., Jefferson, Texas, will probably build a large mill at Atlanta, Texas.

The Abilene Mills, Abilene, Texas, will be greatly enlarged and new improved machinery put in.

Parties from Dallas, Texas, have made propositions to build the water-works at Abilene, Texas, on a larger scale than is now being built by Northern contractors.

The Central Railroad will build a 5-mile branch from Hutchins to Lancaster, Texas.

W. A. Huffman, Cleburne, Texas, expects to tear down his burr mill and build a large roller process mill.

Hillsboro, Texas, will build a \$10,000 school house.

The Dixie Foundry & Machine Co., capital stock \$10,000, has been incorporated in Tyler, Texas.

W. H. Prather and others, of Dallas, Texas, have incorporated the Dallas Land and Street Railroad Co.; capital stock \$100,000.

## VIRGINIA.

The Loddell Car Wheel Co.'s Walton Furnace, Max Meadows, Va., has gone into blast.

Several small mines are being developed at Pilot, Va.

## LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.



Jno. W. Critzer, near Staunton, Va., has completed a shop where he will manufacture wagons.

Hiram M. Roudabush is putting machinery in his mill, Cross Roads, Rockingham county, Va., to manufacture patent roller flour.

The City Council, Danville, Va., are discussing the lighting of the city by electric light.

The Bank Street Baptist Church, of Norfolk, Va., will probably erect a \$20,000 church, and the Bute Street Methodist Church will build a \$25,000 church.

A New Jersey manufacturer is in Lynchburg, Va., prospecting, with a view to establishing a shirt factory.

Witz & Holt, Staunton, Va., are putting new machinery into their flour mill, and greatly improving the mill.

The Westham Granite Co., of Richmond, Va., have secured contract for granite work on the South Carolina State House for \$57,005.

A small furnace has been built at Robertson's Gap, Va., by parties who have commenced mining.

Russell Wallace, Augustus Wright and Robert Collier, of the Upper Appomattox Company, Petersburg, Va., have purchased the water power and site of the City Mills, recently destroyed by fire, for \$9,000, and will, it is stated, rebuild.

The Old Virginia Nail Works, Lynchburg, Va., will shut down for a while for repairs.

#### WEST VIRGINIA.

A company is being formed to buy a crusher and develop quartz mines near Brush Creek, W. Va.

Proposals will be received until July 28, by John E. Peck, superintendent, for erecting gas works and lighting the penitentiary at Moundsville, W. Va.

John F. Dezen Dorf, Hector McNeil, A. S. Gregg, Thomas A. Mitchell and S. F. Nichols, of Washington, D. C., have incorporated in West Virginia the Long-Fibre Cotton Gin Co., to manufacture long-fibre cotton gins; capital not to exceed \$1,000,000, with principal office Washington, D. C. John F. Dezen Dorf, Corcoran building, Washington, can be addressed on any business for the company.

Alonzo Loring, George Wise, G. B. Caldwell, A. W. Kelly and C. R. Hubbard, of Wheeling, W. Va.; J. D. Dubois and J. P. Gilchrist, of Leatherwood, Pa.; and H. H. Hornbrook, of Elm Grove, W. Va., have incorporated in West Virginia the Wheeling Steel Works, to manufacture and deal in iron and steel in all forms. Capital not to exceed \$1,000,000, with principal office at Wheeling, W. Va. Will erect a steel plant to cost from \$200,000 to \$250,000.

The Bellaire Gas & Oil Co. have been incorporated in West Virginia by R. W. Muhleman, W. Vorghy, S. O. Cummins, D. B. Crathy, J. T. Adams and D. Q. Steer, of Bellaire, O., to mine for gas and oil. Capital nominal, with principal office at Wheeling, W. Va.

The American Water Bar Grate Co., of Pennsylvania, has been incorporated in West Virginia by Isaac W. Swallow, Kinston, Pa.; Jno. H. Sinsabaugh and W. Fowler, Jr., Philadelphia, Pa.; Samuel T. Thomas and Byron T. Akerly, Scranton, Pa., to manufacture and introduce grate bars and other apparatus for economizing heat and power. Capital not to exceed \$100,000, with principal office at Philadelphia, Pa.

It is stated that J. H. Bennett, Fairmont, W. Va., has received contract to build an 8 mile railroad from Sewell Station, W. Va. to Mair's Creek.

The American Fire Proof Construction & Sky Light Company, has been organized in West Virginia, capital stock \$100,000, by J. Franklin Stuckert, of Philadelphia, Pa., and others; main office in Philadelphia.

The Wheeling Nail Co., Wheeling, W. Va., in connection with other nail makers in that vicinity, will erect steel works (to be known as the Wheeling Steel Works) at a cost of from \$200,000 to \$250,000. The particulars of the organization of this new company are reported in this issue.

The Harvey Paper Co. has been incorporated in Wellsburg, W. Va. by Benjamin Harvey, W. H. Harvey, G. W. Rice, S. George Abram and W. S. Abram, to manufacture and sell paper; capital stock \$32,000.

#### BURNED.

The machinery of the Louisiana Brewing Co., New Orleans, La., badly damaged by fire.

Saw mill of J. W. Favors, fourteen miles from Columbus, Ga.

The tobacco factory of P. D. Mosby at Clarksville, Tenn.

The grist and flouring mills of W. S. Sizemore, Aiken, S. C., badly damaged by flood.

The distillery of Mattingly & Moore, Bardstown, Ky., damaged \$5,000 by boiler explosion.

The boiler-house of the Montevallo Coal and Iron Co., Aldrich, Ala.

The brick flour mill of Irvin & Callan, Washington, Ga. Loss \$12,000.

#### A New Gin Manufacturing Co.

NASHVILLE, TENN., June 28, 1885.

*Editor Manufacturers' Record:*

On June 15th the Ralston Ginning Co., of Nashville, Tenn., was organized, and immediately set parties to work building the Ralston gins and cleaners, preparatory to filling, as far as possible, the 240 orders we have for this machinery. We expect now to want from 400 to 600 of these machines next year, but as yet have not decided as to the extent of the works we will build in time to do this business, which will in all probability be erected in Nashville. The company propose to rent to the planters a plant of this machinery, consisting of two sixty-saw gins and one large cleaner, and furnish an expert to run them, charging by the bale for use of machinery. This is something new. Correspondence is invited from gin builders in regard to building these gins.

W. L. COVEL,

Secretary and General Manager Ralston Ginning Co.

#### A New Flour Mill.

GOLDSBORO, N. C., June 29, 1885.

*Editor Manufacturers' Record:*

Messrs. Dewy Bros. have the contract and are building grist and flour mills for me about six miles from town; cost about \$5,000; may add wood manufacturing of some description later; plenty hard wood timber for spokes, hubs, &c.

R. E. JONES.

#### A Saw Mill.

SPRING CITY, TENN., June 28, 1885.

*Editor Manufacturers' Record:*

I will put a saw mill in or near Grassy Cove in the course of 2 weeks; part of machinery is here now.

C. J. TITUS.

MONTGOMERY, ALA., June 23, 1885.

*Editor Manufacturers' Record:*

Messrs. G. W. Cook & Co., of this city, are erecting a coffee roaster to be run by steam, in connection with their grocery establishment.

MOSES BROS.

KNOXVILLE, TENN., June 17, 1885.

*Editor Manufacturers' Record:*

Do not think our company will rebuild elevator for year or two, but will be compelled to build large warehouse.

KNOXVILLE CITY MILLS CO.

#### Location Wanted for a Factory.

TIFFIN, OHIO, June 23, 1885.

*Editor Manufacturers' Record:*

We are looking up a location somewhere in the South where there is plenty of sweet gum, maple and elm timber to manufacture oval wood butter dishes, but have no place yet positively decided upon.

A. L. FLACK,

Genl. Agt. Oval Wood Dish Co.

#### A \$50,000 Coal Company.

TROUT CREEK,

ST. CLAIR CO., ALA., June 24, 1884.

*Editor Manufacturers' Record:*

The "St. Clair Coal Company," incorporated under an act of the legislature of Alabama, with a capital stock of \$50,000, is now operating the Ragland mines, having leased that property, consisting of 280 acres of coal lands. The coal is of a very superior quality, unsurpassed for making coke, and very valuable for domestic, steam and blacksmith purposes; low in sulphur and ash, and with great heating qualities.

W. P. LARAMORE,

Assistant Manager St. Clair Coal Co.

TOWALIGA, GA., June 19, 1885.

*Editor Manufacturers' Record:*

W. R. Weaver, Jackson, Ga., is repairing his 2-run mill with new bolting cloths; also speaks of putting in new millstones. Kinard & Son, Towaliga, Ga., will erect another store by the side of the one now occupied, to be 30x60 feet—first floor for dry goods; the second a skating rink.

Application will be made to the legislature of Georgia at the July session in 1885 for a charter for a bank to be located in the city of Jackson, Butts county, Georgia, to be known as The Agricultural and Commercial Bank; the capital of said bank to be \$25,000, and with the privilege of increasing the same from time to time to \$100,000.

KINARD & SON.

BARBOURSVILLE, W. VA., June 26, 1885.

*Editor Manufacturers' Record:*

The Hopkins & Pleasants Lumber Co. has been organized for the purpose of manufacturing staves, poplar, pine and hard wood lumber in Cabell county, of this State. Most of the stock is held in New York City. B. F. Butler and Gordon Macdonald, of the firm of Butler, Macdonald & Co., 76 Wall street, New York, are interested in the enterprise.

T. B. CRANDALL.

#### A Fruit Cannery.

TROUTSVILLE, VA., June 23, 1885.

*Editor Manufacturers' Record:*

I will put up a canning factory at this place, though not large, but may enlarge in the future.

JACOB G. LAYMAN.

SUMTER, S. C., June 22, 1885.

*Editor Manufacturers' Record:*

At a meeting of stockholders on June 15, it was decided to increase the capital stock of this mill \$20,000 and to add new machinery. A portion of this amount has been subscribed.

D. JAMES WINN,

Prest. Sumter Cotton Mills.

MARYVILLE, TENN., June 22, 1885.

*Editor Manufacturers' Record:*

We have since our fire in January erected a wood building, and have placed in it 12 machines, nearly all new, for planing and for manufacturing sash, doors, blinds, and all work usually done in a carpenter's machine shop, all of which are now in successful operation, with plenty of work and good prospects for the future. We will build in the near future a brick shop 40x60 feet, two stories high, which, when connected with the above named, will form an ell 60 feet on one street and 116 feet on another street,—all two stories high.

B. F. WILLARD & SON.

#### A New Cotton Planter.

GREENSBORO, GA., June 25, 1885.

*Editor Manufacturers' Record:*

We are now corresponding with some men in Chattanooga, and if we can make satisfactory arrangements, we will go there shortly. Our cotton planter is something entirely new.

J. M. HOWELL & SONS.

GARLAND, TENN., June 22, 1885.

*Editor Manufacturers' Record:*

The saw and planing mill firm at this place—Anthony, Williamson & Co.—dissolved partnership on the 18th inst. The business will be continued by J. H. Anthony. The mill is now running at its full capacity.

J. H. ANTHONY.

TOWALIGA, GA., June 24, 1885.

*Editor Manufacturers' Record:*

Mr. W. W. Grubbs, Orchard Hill, Ga., has his saw mill now in operation near this place. Messrs. D. Wing & Bro., formerly of Rochester, N. Y.; now at Orchard Hill, Ga., have their four fruit-driers now in operation at this place.

KINARD & SON.

JACKSONVILLE, FLA., June 22, 1885.

*Editor Manufacturers' Record:*

We have had the matter of putting in an electric plant under advisement, but have not as yet determined to put the same in. We are, however, gathering all possible information in regard to the same, that we may be in the best position to act when the proper time arrives. We wish you success in your good work, and are pleased with your journal.

C. S. L'ENGLE,

Sec'y Citizens' Gas Light Co.

MACON, GA., June 25, 1885.

*Editor Manufacturers' Record:*

My shop and all machinery was burned on the 18th ult.; loss about \$8,000. I am as yet undecided in regard to the dimensions of the building and at what time I will commence rebuilding—within 30 days I hope. The house burned was about 50x120 feet, and was not large enough for my business.

J. E. ELLIS.

#### A Purchaser Wanted.

SHUBUTA, MISS., June 16th, 1885.

*Editor Manufacturers' Record:*

I am not able to rebuild; will sell machinery and site, with fine business custom established, on very favorable terms to any one wanting to engage in the business of milling and ginning.

ELIJAH PARKER.

SANGERSVILLE, VA., June 25, 1885.

*Editor Manufacturers' Record:*

Preparations are now being made to manufacture hubs, spokes, handles and probably other goods in that line, but will not go into operations until autumn.

N. L. BLAKEMAN.

MONTGOMERY, ALA., June 29, 1885.

*Editor Manufacturers' Record:*

I will start my candy factory about 15th of July, 1885, and have bought my entire outfit, as far as machinery is concerned, of Thos. Mills & Bro., Philadelphia.

THOS. H. CARR.

WHILE the wheat crop is, of course, very short, we are inclined to think that the yield will be larger than has generally been expected. From many places reports are coming that harvesting demonstrates that the crop is much better than had been supposed, and the yield will, in the aggregate, we think, be fully enough to meet all the demands of the home and the foreign markets.



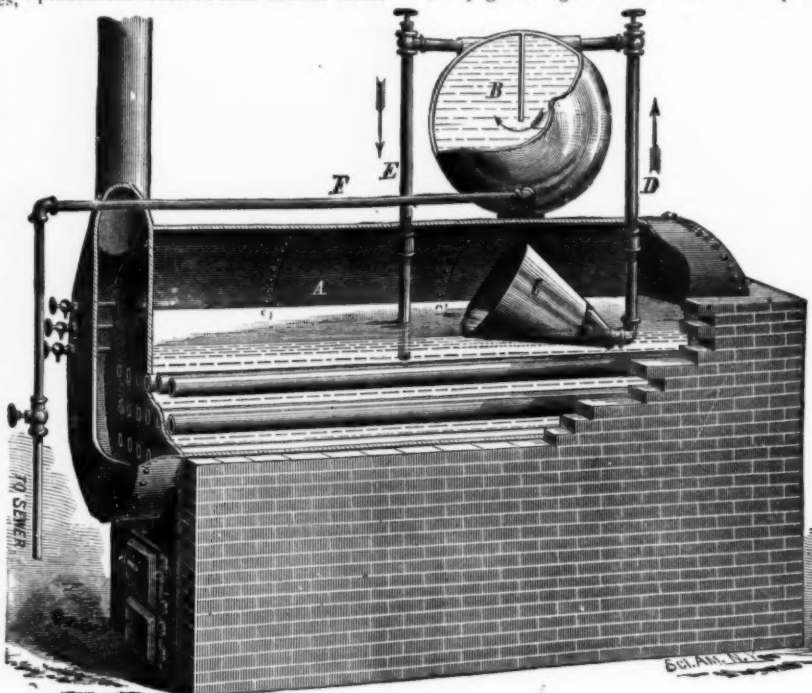
### Prevention of Scale in Steam Boilers.

The formation and prevention of scale in steam boilers has been, from time to time, discussed pretty freely in almost every mechanical and engineering journal. The number of specifics and nostrums, sold under all kinds of fancy names, for its prevention and removal, are legion. Complicated apparatus and constructions have also been proposed, and, to some extent, used for removing the scale by boiling and heating the feed water, under pressure, previous to use. Unfortunately, however, the trouble and expense of these arrangements, added to their first cost, came to nearly the same thing as simply replacing the worn-out steam boiler, which has become injured by scale; but to many steam users unacquainted with chemistry, they are about as instructive as if they were written in a foreign language. Perhaps it may not, therefore, be out of place to explain, in as simple a manner as possible, the nature of boiler scale and the cause of its formation. What is termed boiler scale is a mineral deposit from the feed water, whenever hard water is used as a source of supply. All lake, river and spring water is more or less hard. The hardness is caused by the water coming in contact with certain mineral substances, which the water dissolves, to a small extent, when running over or through the ground. The substances are chiefly carbonates and sulphates of lime, some magnesia, and, at times, traces of iron. There are two kinds of hard water, which chemists call "temporary" and "permanent" hard water. The first kind, or temporary hardness, is caused by carbonate of lime and magnesia, which has been dissolved by the water, and it is called temporarily hard, because when the water is boiled, all the carbonate of lime is rendered insoluble, that is to say, it is no longer dissolved by the water, but is thrown out, and falls in a white, slimy deposit of carbonate of lime. The second kind of hard water, that termed permanently hard, is caused by the sulphate of lime dissolved by the water. Simple boiling does not make it insoluble or remove it. The water, therefore, that contains it is permanently hard, that is to say, it cannot be softened by simply boiling, but only by boiling under a high pressure, or by heating the water up to a high temperature, which means the same thing. All water contains more or less of these two substances, while in many localities, notably in the South, there may be large amounts of organic matter, which, like the lime salts, precipitate and make scale or fill the boiler with mud, necessitating frequent days for cleaning out the same. From the above simple description of the theory of the formation of boiler scale, it is evident that if the substances causing the hardness as well as scale were to be removed from the boiler, all trouble would be obviated, and a long life insured the boiler. The Hotchkiss Mechanical Boiler Cleaner, which we illustrate, is an automatic device for that purpose, and is in general use in the States, Canada and Great Britain. The circulation of water through the funnel constantly skims the surface water of all impurities thrown to the surface by ebullition, and conducts them to the reservoir, where they all settle,—the purified water continuously returning in the direction of the arrows, to the boiler. This operation never ceases so long as the boiler is under steam pressure, and a clean boiler is insured on opening day by having blown the mud from the reservoir daily. Mr. Jas. F. Hotchkiss, of 86 John street, New York, the sole owner of this invention, will forward an 88-page illustrated book on "How to Keep Boilers Clean," to anyone sending him their address.

### Alabama Progress.

A large land holder in Montgomery county, and a gentleman of excellent information and correct judgment, stopped over a day or two in Birmingham *en route* for the Northwestern States and Territories to make a summer tour of observation. A representative of the Age was glad to seize so favorable an opportunity of hearing the exact industrial outlook in the cotton belt discussed, and therefore claimed the traveller's companionship for an hour or more with that interesting theme between them.

The season of revival has begun all along the line of railroad from the Mississippi line to Eufaula. This is a magnificent belt of prairie lands, where agricultural resources are simply wonderful. But it is not in evidences of progressive agriculture that the present signs of advance are made manifest. The rule of industrial growth gives not to agriculture, but to manufactures and trade, the right of putting in motion the energies of the people. Agriculture develops by sympathy with the other two elementary branches of industry. It is true that the bulk of the wealth of the South consisted, up to twenty-five years ago in agricultural property, but the foundation of agriculture then was slavery, and from slavery Southern plantations received their market value.



THE HOTCHKISS MECHANICAL BOILER CLEANER.

The facts are that the banks of all the towns in the cotton belt of Alabama are unprecedentedly prosperous; that every town of three hundred inhabitants is growing; that manufactures, from the ordinary blacksmith shop to the cotton seed oil mill, are doing well where established, and there is a marked disposition to increase among them. It is plain that the influence of the young men, who, having grown up to man's estate since the abolition of slavery, is being felt in the pulsations of business, and that influence brings confidence and high resolve to replace despondency. It is plain, too, that the negro, while ceasing to be an element of political discord, has come to be recognized and appreciated on his undoubted merits as a laborer. The free labor institutions of Birmingham, our furnaces, rolling mills, mines, etc., had long ago proven the efficiency and fidelity of the negro. The rising generation of Alabama farmers are fast learning to prove the same qualities in the class of negro farm hands they employ.

The labor now proving itself equal to the emergencies of all kinds of industries, the growth of the cotton region is assured. The town of Montgomery has doubled its population in fifteen years. There are no vacant houses of any kind. To build a house there is at once to secure a tenant or purchaser.

Town lots vie with those of Birmingham in the prices they command by the square foot. The town is admirably well officered, and public spirit is proud and buoyant. Agricultural lands which were sold two years ago, within two or three miles of the city, at \$20, cannot be bought now for \$50. Plantations twenty miles off are held at fifty per cent. higher rates than were asked two years ago. Not a few land holders have absolutely established permanent arrangements for rearing live stock for the market, to the abandonment of cotton. This realization of progress is not confined to Montgomery county. Selma and Demopolis feel its advent and give visible demonstration of their sensibilities. The new brick buildings going up, the successful enterprises of many kinds, the belief that the Mobile & Western Railroad is to be built, and thereby bind the prosperity of the mineral region with the agricultural, are the best of evidences of the good courage and hope of the people. A plantation of 400 acres near Gallion, in Hale county, lately sold for \$25 per acre without the growing crop; another at \$17.50. Another of 1,000 acres, in the same neighborhood, is offered at \$30 per acre. Five years ago there was absolutely no market for land in that section.

The country needs to be reminded of its own history. We now see plainly that a very great degree of the industrial depres-

sion, which for twenty years hung over the cotton belt, arose from fictitious causes. We now see that the infusion of young Southern blood into our industrial system is destined to elevate it to even a greater and grander plane than it has ever before occupied.

The mineral, the timber, the agricultural resources of Alabama, are all awake and moving. The future of the State is assured beyond cavil.—Birmingham, Ala., Age.

THE Spencer Arms Company, manufacturers of the Spencer Repeating Shot Gun, received a first-class medal over all competitors on their gun at the New Orleans Exposition. This gun is rapidly attracting the attention of sportsmen as one of the most excellent guns ever made. It is a shot gun made on the order of a repeating rifle; it can be shot six times without being removed from the shoulder, and almost as rapidly as the trigger can be pulled. The manufacturers will send descriptive circulars to any one desiring them.

THE Louisville Asphalt Varnish Co. find that their trade in the Eastern States is assuming such proportions as to require an office in New York City. They have secured, as resident manager, Mr. Frank A. Cleland, lately with the Dighton Color Works. Their office and depot of supplies will be at 174 Front street.

### North Carolina's Progress.

The development of the industrial interests of the South, and the progress that is being made by that section, as constantly set forth in the MANUFACTURERS' RECORD, are abundantly confirmed by the whole Southern press. The News and Observer, of Raleigh, N. C., which is not given to exaggeration, paints the picture of that State's advance in glowing colors, and well it may, for as the MANUFACTURERS' RECORD has so often shown, North Carolina is keeping well up with the most enterprising Southern States. It is very gratifying, says the News and Observer, to observe the rapid advance North Carolina is making in every line of thought and endeavor. It is unmistakable, and to those who return to the State after an absence of any number of years, it is amazing. Many of the towns which were thought dead ten years ago and ready for the final fencing in, have stifled their old fogies, and taken places abreast of their most enterprising sisters in the march of progress. Everywhere signs of improvements are visible.

The methods of agriculture are becoming more careful, thorough and economical; industries hitherto unknown by our people, but rendered necessary and profitable by the new order of things, are springing up at all points; larger manufacturing interests have found sound bases of operation and are extending their scope; trade is seeking new and broader channels; the professions are becoming more particular about the standard of admission into their ranks; the educational system is being greatly improved and made more comprehensive; and the surplus made by each individual worker over expenses is growing larger year by year. As a consequence the whole people are more intelligent, active, refined and comfortable than they have ever been. We do not go into particulars, but these deductions are made from masses of facts which are constantly reaching us from all parts of the State. Railroad building which is stagnant elsewhere is active in North Carolina. Several important lines are being pushed with vigor. In the East the trucking business is extending rapidly and is highly profitable. The day will come when a large proportion of the region East of the Wilmington and Weldon Railroad will be a vast vegetable garden for the great centers of population within easy reach to the northward.

The fisheries are being enlarged and extended, and various manufacturing enterprises—rice-mills, pine fibre factories, woodenware factories, fertilizer factories, canneries, etc., have been established, and are doing well. In the center the advance is even more marked. The great manufacturing region of the State has managed not only to maintain its position of reasonable prosperity in the face of the depression which has so seriously affected manufacturing interests generally, but to advance, and it presents to-day as sound a condition as any other manufacturing community in the country. The improvement in agriculture is also greater in this section, and the people consequently make larger and better crops and live more comfortably than ever heretofore. Smaller industries and handicrafts are springing up and multiplying in spite of our lack of manual training schools, and the magic bright tobacco is rapidly making the region one of opulence as well as plenty. The West is at length within the threshold of its development, and its treasures are being outturned in such richness and abundance as to astonish the world. From Hatteras to the Smokies there has been a distinct uplifting of the body of the people, in material welfare, in intelligence, and in refinement. To whatsoever the fact may be due there is no doubt about its existence. The State is now amply prepared to grapple with any problem which may be presented to it, and as a prosperous, progressive, homogeneous, God-fearing people, should be accorded the leading place among Southern commonwealths to which it is entitled.



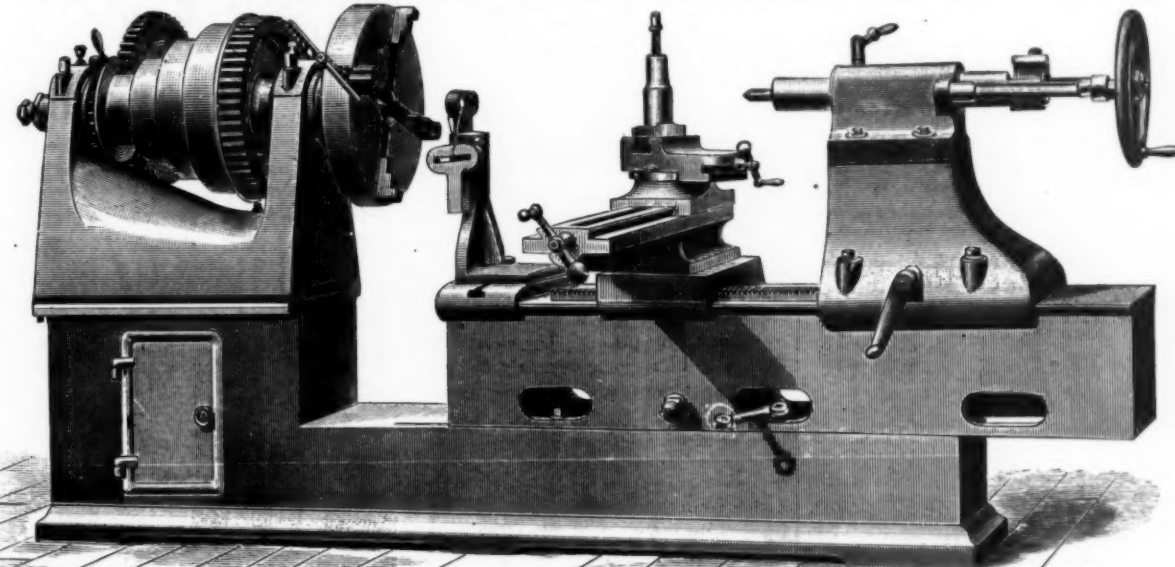
**60-inch Chucking Lathe.**

The accompanying cut shows a 60-inch chucking lathe, made by Messrs. Lodge, Barker & Co., Cincinnati. This machine with gap open swings 60 inches, and with gap closed 36 inches. The gap opens to leave space of 4 feet. The slide-rest is compound to bore or turn straight and taper, and will face up the entire 60 inches. It can be made with turret-head instead of tail-stock, at a small additional cost. It can also be made with power-feed, either for turret-head or for outside turning at an additional cost of \$50.00. The largest diameter of cone is 18 inches, and is geared 10 to 1. The front bearing is  $4\frac{1}{4}$  inches by 6 inches long. The tail spindle is  $2\frac{3}{4}$  inches in diameter.

**List of Patents.**

The following Patents were granted to citizens of the Southern States, bearing date June 23, 1885. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Adair, R. H., Stovall, Texas. Plow.....320,611  
Avery, C. E., Jacksonville, Fla. Preparing logwood extract.....320,526  
Brickell, Nicholas, Brinkley, Ark. Machine for grinding tools.....320,755  
Cathcart, R. S., Palestine, Texas. Oil-expressing box and package-shaping machine.....320,348



Wells &amp; Frost &amp; Co. Cin. O.

60-INCH CHUCKING LATHE.

Cathcart, R. S., Palestine, Texas. Oil-expressing box.....320,347  
Coffee, R. W., Liberty, Va. Tobacco-drier.....320,459  
Couper, J. H., Marietta, Ga. Swimming-shoe.....320,762  
Dew, J. R., Knoxville, Tenn. Fruit-drier.....320,543  
Fleck, John, Louisville, Ky. Locomotive cow-catcher.....320,864  
Koch, John, Wheeling, W. Va. Refrigerator.....320,808  
McCabe, Chas. Antietam, Md. Steering canal boats.....320,670  
Moore, E. J., Baltimore, Md. Water-tube boiler.....320,809  
Murray, G. W., Mt. Crawford, Va. Trestle.....320,674  
Painter, Wm., Baltimore, Md. Electric railway.....320,679  
Park, J. R., La Vergne, Tenn. Reflector.....320,494  
Pue, C. R., Baltimore, Md. Gun-wad.....320,500  
Raney, O. T., Melissa, Texas. Plaiting apparatus.....320,689  
Saltsman, D. J., Brewton, Ala. Log turner.....320,591  
Steers, S. B., New Orleans, La. Bale-heading and lifting attachment for presses.....320,719  
Walker, W. H., Charleston, S. C. Spring-joint for hooks, &c.....320,729  
Warthen, R. L., Sandersville, Ga. Cotton cultivator and hoe combined.....320,731  
Wilhelm, Albert, Pleasant Hill, Texas. Cultivator.....320,607  
Winston, J. H. C., Lynchburg, Va. Saw-filling machine.....320,735  
Winseid, Godfrey, Schulenberg, Texas. Tool for removing chips from mortises.....320,736

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

**A \$100,000 Brick Yard in Alexandria, Virginia.**

ALEXANDRIA, VA., June 26, 1885.

*Editor Manufacturers' Record:*

A few weeks ago it was stated in the MANUFACTURERS' RECORD that a very extensive brick yard was being established in Alexandria, and as these works are now nearly completed, a few particulars regarding this important enterprise may prove of interest.

The name of the company is the "Capital Pressed Brick Company," incorporated as a stock company, with an authorized capital of \$100,000. G. P. Cannon, president of the company, and R. H. Goldsborough, secretary, are both natives of Maryland. The works, when fully completed, will cost nearly \$50,000, and are intended to equal, if not surpass, any in the country (in equipment if not in capacity.) All the latest improved machinery is used throughout the entire plant. The works at present consist of three large sheds and the building for the machinery, with two kilns completed and two more in process of erection; the buildings, altogether, covering more than 40,000 square feet of ground. A large wharf has been built that will afford ample accommodation for the handling of their stock. They are now running four brick presses, and have

two very large ones ordered, which will give them a capacity of 80,000 bricks per day, and as they can run equally as well at night when pushed, their capacity can easily be doubled. About 60 men and boys are employed at present. They make the finest grades of face and ornamental bricks, as well as the ordinary kind. Being immediately around "Lighthouse Point," on the Potomac, they not only have Washington as a market, but expect to supply any points on the river and the lower points on the bay, including Norfolk, Portsmouth and Hampton. The great natural advantages of their works must be seen to be appreciated. They have abundance of the finest clay, enough to last a lifetime, which, being about forty feet above their heads, or rather above the machines, is so handled by shutes and scrapers, that no carts or wagons will be needed for saving it. This alone is a big item saved in the cost of production. Another one is in the facility they have of getting cheap coal delivered directly from the canal barges, thus saving from 75 cents to a dollar drayage on every ton. Since they started, about three weeks ago, they have had thousands of visitors, and their praise and surprise can be summed up in the expression of one: "Well, this is a 19th century brick yard." X.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

**Dresden Moulding Sand.**

None know better than stove founders how indispensable is a moulding sand of just the right quality to insure fine smooth casting. To secure the best results the sand must be of fine texture, and must take and retain in a perfect manner the most delicate lines or configurations of the pattern. The molder must be able to produce a perfect *fac simile* of his pattern, not a grain of sand being taken when the pattern is lifted. The sand must take vent readily, and castings made in it should not "wash," "cut," "flow" or "scab."

A sand has been recently discovered near Louisville, Ky., by A. J. Sennett, superintendent of the molding department of Bridgeford & Co., of that city, which possesses qualities of extraordinary value for producing the finest castings. \* \* \* A peculiarity of this sand is that with its use very little if any facings are required. We have before us a very beautiful plaque, the bird design used on Bridgeford & Co.'s Arcadia heating stove, which was molded in this sand without the use of a particle of facing.

It is claimed for the Diamond sand that the finest carving or tracing can be reproduced with exactness in the minutest detail by its use.

This sand is recommended for art and ornamental castings, machinery and bench

THE Magazine of Art for July has for its *piece de resistance* a well considered paper on Handel, with six admirable portraits of the famous composer apropos of the forthcoming second centennial of his birth. The Thornhill portrait showing Handel at the spinnet forms the frontispiece. The poem and picture which follow are, the former by Alice Meynell, the latter by W. J. Hennessy. "The Buried Mother" is the subject of the poem. Then follows one of F. Mabel Robinson's papers on the Romance of Art. J. A. Blaikie describes that picturesque English river, The Dart, while Miss Helen Zimmon describes that painter of picturesque children, Ludwig Knaus. We have a curious study of medieval "Headgear," than which nothing could be more hideous. An interesting illustrated paper describes Cinque-cento Picture Windows, while the very next paper is on current art, the recent pictures at the London exhibitions, which are well illustrated. The full-page illustrations are "The Burial of Atala," from the picture by Gustave Courtois, and "A Concert in Old Egypt," from the original of A. Calbet. All the departments of the magazine are full and complete. Cassell & Company, Limited, \$350 a year.

THE Cummer Engine Co., of Cleveland, Ohio, have recently received orders for 170, 70, 100 and 130 horse-power outfits complete, for the Harney Peak Mining Co., of New York; Volney Q. Irwin, of Crawfordsville, Ind.; Temple Pump Co., Chicago; and the Forest City Carbon Co., of Cleveland, Ohio, respectively. In each instance the competition was close, and the Cummer people consider the selection of their engine in these cases a very substantial endorsement of its superior merits, as about every style of automatic engine of any prominence was competing. They have also just shipped a 170 horse-power engine to the Lowell Manufacturing Co., of Lowell, Mass., and have a 105 horse-power engine about ready to ship to W. Kautsky, of Indianapolis. Their sales for the Jonathan Mills Reel are still rapidly on the increase, and now run up all the way to 10 per day. Their orders, we learn, are coming in from all directions, and are promptly filled. They started up a number of their Ballantine Refrigerating Machines this season in breweries in different sections of the country, and in every instance the machines are said to be giving the best of satisfaction.

IN the MANUFACTURERS' RECORD, Baltimore, June 2d, appeared a letter from C. E. Earnest, of this place, stating that he had tested a bed of clay near here, that the brick were good and there was a good demand for them, and that he was trying to form a company to manufacture them, etc. Mr. Earnest's letter called out a response from Fred Balcom, treasurer and general manager of the National Investment & Development Company, of New York and Washington. Mr. Balcom says:

"Please send me particulars regarding the proposed organization of a company to manufacture brick. What do you want for the clay beds? Will you take stock? What size brick machine do you want? Whose make? Can any money be secured there; if so, how much? I can place some stock of such a company here. When I hear from you I will tell you what I can do. My idea in taking hold is to add an ice machine later."

Here is an opportunity to secure to our growing young city two very important industries. There is no denying the fact that we have one of the very best beds of clay in the State. Even with his primitive facilities Mr. Earnest has produced some No. 1 brick, and there is no question but that in the hands of a company with sufficient capital, and with improved facilities for manufacture, it would prove remunerative to the stockholders and of vast importance to this growing section. We hope Mr. Earnest will push the enterprise to a successful issue.—*Kissimmee (Fla.) Leader.*

work, as well as for stove plates. Bridgeford & Co. express the opinion that the discovery of Dresden sand will do for Louisville what the sand of Albany has done for that city, viz.: make it one of the greatest stove markets in the country.—*American Artisan.*

Messrs. Geo. H. Hull & Co., Louisville, Ky., are sole agents for the United States.

THE Roller Chain Belting Co., Columbus, Ohio, have issued an illustrated descriptive catalogue of the Legg Anti-Friction Roller Chain Belting. This belting is especially designed for elevators, conveyers, drags, drive belts. The catalogue will be found of interest, as it shows by illustrations the many ways in which this belting can be used to great advantage.

THE Cincinnati Corrugating Co. have issued a circular, in which they say: "We have the pleasure to announce that this company, having entered its exhibit for competition, is awarded the 'Gold Medal of the First Class' for 'Corrugated Iron for Building Purposes' by the World's Industrial and Cotton Centennial Exposition, at New Orleans."

MELVIN STEPHENS, 41 Dey street, New York, manufacturer of Stephens' Patent Vises, was awarded a first-class medal at the New Orleans Exposition.

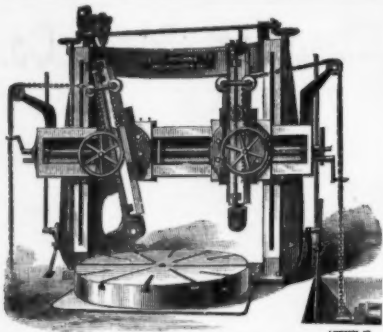












## Betts Machine Co.

WILMINGTON, DEL.

MAKERS OF

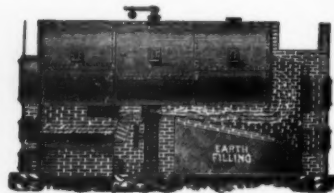
### Improved Machine Tools.

Boring and Turning Mills

OF MODERN DESIGN AND FIRST-CLASS WORKMANSHIP. SIZES UP TO 14-FOOT SWING.

## JARVIS PATENT FURNACE

### FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the **Siemens Process of Making Steel**, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

**Jarvis Engineering Co.,**

A. F. UPTON, Treas. and Gen'l Manager,  
61 Oliver St., Boston, Mass.

JOSHUA C. COE, Agent for Maryland and Virginia,  
O'Donald's Wharf, Baltimore, Md.

#### SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.  
Anniston Mfg. Co., Anniston Ala.  
J. P. King Mfg. Co., Augusta, Ga.  
Rose Mining Co., Charleston, S. C.  
Maryland Pavement Co., Baltimore, Md.  
Brush Electric Light Co., Baltimore, Md.  
Ettrick, Matoca and Battersea Mfg. Co's.,  
Petersburg, Va.  
Hasin Fertilizing Co., Baltimore, Md.  
Tanner & Delaney Engine Co., Richmond, Va.  
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.  
Charleston Bagging Co., Charleston, S. C.  
P. H. Mayo & Bros., Richmond, Va.  
Phosphate Mining Co., Beaufort, S. C.  
Brush Swan Electric Light Co., Norfolk, Va.  
Columbus Ice & Refrigerator Co., Colum-  
bus, Ga.  
Lenoir Manufacturing Co., Lenoir, East  
Tennessee.  
Vanceuse Mill, Graniteville, S. C.

## PHOSPHOR-BRONZE

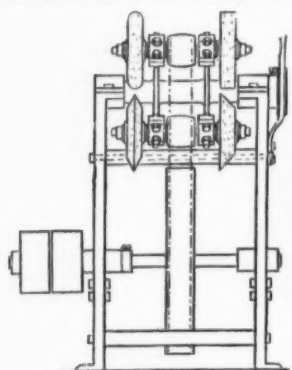


The celebrated alloys in Wire, Rods, Sheets, Bolts,  
Wire Ropes, Wire Cloth, Castings, Ingots, etc.  
Pamphlets and particulars on application to

**THE PHOSPHOR-BRONZE SMELTING CO., Limited.**

No. 512 ARCH STREET, PHILADELPHIA, PA.

Owners of the U. S. Phosphor-Bronze Patents.  
Sole Manufacturers of Phosphor-Bronze in the United States.



BLAISDELL'S  
Eight Wheel Emery Machine,

FOR GRINDING  
ALL KINDS OF IRREGULAR CUTTERS.



GOODELL & WATERS.

Manufacturers of all kinds of WOOD-WORKING MACHINERY, Warerooms, 115½  
Liberty Street, New York. J. H. BLAISDELL, Manager.



### EWART'S PATENT CHAIN BELTING

Especially designed for the rapid and economical  
handling of Grain, Malt, Saw Dust, Coke and Clay, Dry  
and Spent Tan, Phosphates and Chemicals, Broken Stone,  
Coal, Ice, Ores, etc.

**R. SWORMSTEDT,**

48 S. FREDERICK ST.

Sole Agent for Maryland, Virginia,  
North Carolina, South Carolina and  
Georgia.

Send for Illustrated Catalogue.

Please mention this paper.

## TO STEAM USERS.

I will Remove and Prevent Scale in any Steam Boiler, or make no charge. My Remedy will also  
Neutralize the most destructive waters, and prevent

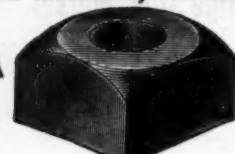
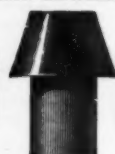
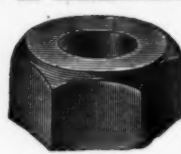
GROOVING, PITTING, AND WASTING OF IRON.

Which causes so many Boiler Explosions. A book on "Care and Management of Steam Boilers."  
Address **GEO. W. LORD, 316 Union Street, PHILADELPHIA, PA.**

## HOOPE'S & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



### KEYSTONE BOILER RIVETS.

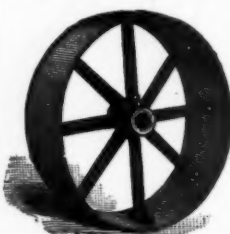
Cold-Punched Square and Hexagon Nuts.

Finished and Case-Hardened Steel Hexagon Nuts.

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

TANK AND COOPERS' RIVETS.



THE MEDART PATENT

## WROUGHT \* RIM \* PULLEY.

THE LIGHTEST, STRONGEST,  
BEST BALANCED, AND CHEAPEST  
IN THE WORLD.

Whole pulleys from 9 inches to 120 inches diameter. Split pulleys from  
12 inches to 120 inches diameter.  
All widths of face up to 36 inches, crowning or straight, with single,  
double or triple sets of arms. Also tight and loose pulleys. Absolute  
Satisfaction Guaranteed. SHAFTING, HANGERS, COUPLINGS, &c.

**MEDART PATENT PULLEY CO.,**

1206 TO 1214 N. MAIN STREET, ST. LOUIS, MO.

STORES: 99 & 101 W. Second St., Cincinnati. 24 & 26 S. Canal St., Chicago.

## MACHINE \* MOLDED

### Cast Pulley Castings

Machine-molded Pulleys save from 20 to 30 per cent. in turning, balancing,  
and also in weight; and, being perfectly proportioned, are far stronger than hand-  
made PULLEYS. We have a capacity of 120 pulley castings a day, ranging  
from 6 inch diameter, 11 inch face, to 36 inch diameter, 24 inch face. We also  
keep a large assortment of Journal-box Castings, Face Couplings, Set Collars,  
Boiler Fronts, etc., on hand. Send for Price-Lists.

**Standard Foundry Comp'y,**

1240 to 1248 Collins Street, ST. LOUIS, MO.



## THE MACKENZIE PATENT CUPOLA AND BLOWER

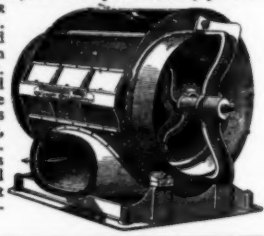
Send for Circular to **SMITH & SATRE MFG. CO.,** Proprietors, 245 Broadway, N. Y.



This Cupola has made a great revolution in melting Iron. It differs from all others in  
having a CONTINUOUS TUYERE, or in other words, the blast enters the fuel at all points.  
Above one ton capacity per hour, they are made oval in form. This brings the blast to  
the center of the furnace with the least resistance and smallest possible amount of power,  
and in combination with the continuous Tuyere causes complete diffusion of the air  
throughout the furnace, and uniform temperature, melting ten or fifteen tons an hour  
with the pressure of blast required to melt two or three tons in an ordinary Cupola. It  
also enables us to save very largely in time and fuel, the experience of our customers  
showing a gain of twenty-five to fifty per cent. in time, and twenty-five to forty per cent.  
fuel over the ordinary Cupola, and a BETTER  
QUALITY OF CASTING, especially in light work.

This is due to the thorough diffusion of the air and  
more perfect combustion, extracting less carbon  
from the iron, making a softer and tougher casting.

We manufacture these Cupolas of any desired  
capacity, numbered from 1 to 20, inclusive, the  
numbers indicating the melting capacities in TONS  
PER HOUR—No. 1, one ton; No. 2, two tons; No. 3,  
three tons per hour, and so on up to 15, or 20 tons.  
We have improved the construction of these Cupolas  
in every way, have increased their strength and  
durability, and sought to make them as convenient  
for working and repairs as our own and the experi-  
ence of our customers could suggest.



## "DYNAMIC" ROCK DRILLS.

**Air Compressors, Boilers,**

HOISTING ENGINES,

\*Mining, Quarrying and Stone-Working Machinery a Specialty.\*

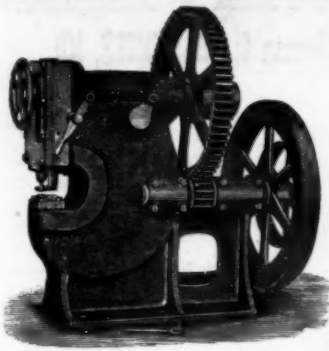
SEND FOR CIRCULARS AND CATALOGUES TO

**C. W. MELCHER, 620 Chestnut St.**

—ST. LOUIS, MO.— Mention this paper







## BEMENT, MILES & CO.

SUCCESSORS TO—  
WM. B. BEMENT & SON, and  
THE MACHINE TOOL WORKS,  
PHILADELPHIA,  
Manufacturers of  
METAL WORKING MACHINE  
Tools

of all descriptions, and of a great number of sizes, including Lathes, Planers, Drills, Shapers, Slotters, Milling and Boring Machines, Steam Hammers, Steam and Hydraulic Riveters, Cranes, Punches, Shears, Bending Rolls, Plate Planers, &c.

## Prentiss' & Patent & Vises.



"Peerless" (Swivel Jaw) Pipe Grip.  
Every Part Interchangeable.  
CAN BE USED ON ANY VISE.

Adjustable Jaw.  
Stationary or Pat. Swivel Bottoms  
CANNOT GET OUT OF ORDER.

Cheapest and Best Vises for Railroad Shops, Machinists, Manufacturers, Mechanics, &c.



For Sale by the Trade.

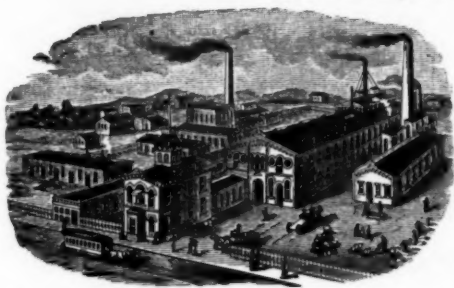
PRENTISS VISE CO., 23 Dey Street, NEW YORK, Sole Proprietors.

## Ludlow Valve Manfg. Co.

Office and Works:

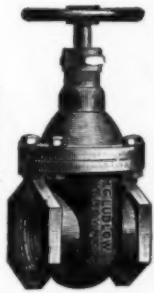
938 to 954 River Street, and 67 to 83 Vail Avenue,

—TROY, N. Y.—



VALVES

Double and Single Gate, 1/4 inch to 48 inch, outside and inside  
Screws, Indicators, etc., for  
Gas, Water, Steam, Oil,  
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

## WREN'S PATENT GRATE BAR.



Is Enduring, Economical, Saves Fuel, Carries a Live and Even Fire.  
Send for Circular and list of users.

DAVID S. CRESWELL,

816 RACE STREET, PHILADELPHIA, PA.



IMPROVED HOISTING ENGINES,  
MANUFACTURED BY THE  
LIDGERWOOD MFG. CO.,

Offices and Salesrooms: 96 Liberty St., New York.

MORTON, REED & CO., Agents,  
59 and 61 German St., Baltimore.

Specially adapted for Railroad and contractors' uses, Pile-driving, Bridge and Dock Building, Excavating, etc. Single or double cylinders, with single or double improved friction drums, with or without Boilers.

## WM. SELLERS & CO.

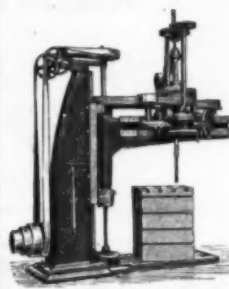
PHILADELPHIA.

Iron and Steel-Working Machine Tools

For Railways, Machine Shops and Rolling Mills,

—ALSO—

Shafting, Pulleys, Hangers, Couplings, &c.



Were the first parties to design and introduce the BALL and SOCKET HANGERS, ADJUSTABLE COUPLINGS, and the system of selling Shafts, Pulleys and Couplings by the piece. Will be pleased at any time to give estimates for work in place, in mills, or at our works.

Price-Lists and other information given when requested.

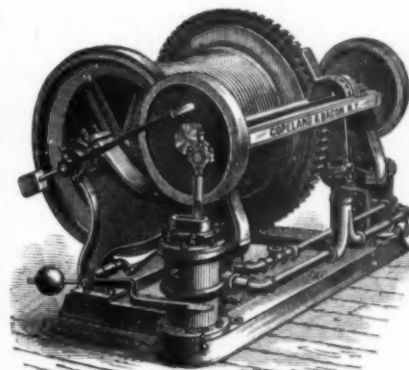
## POND MACHINE TOOL CO.

Successors to DAVID W. POND,

—MANUFACTURERS OF—

## Iron Working Machinery, WORCESTER, MASS.

Special Railroad Tools, Lathes, Planers, Upright and Radial Drills, Boring Mills, Gear Cutters, Milling Machines, Patent Shafting Lathes, Hand Punches and Shears, Planer Chucks. Special machinery in great variety. Estimates furnished. Send for catalogue.



BACON Winding Engines,  
Furnace Hoists,  
Mine Hoists.

(With or Without Boilers.)

"Mining PLANTS," Concentrating Works and Dredging Machinery  
Furnished Complete.

COPELAND & BACON,

85 Liberty Street, New York.

FAIRBANKS & CO., Agts.,  
Philadelphia, Pa.  
Pittsburgh, Pa.  
Buffalo, N. Y.

REFERENCES:—Croton Magnetic Iron Mines, Brewster's, N. Y. Crown Point Iron Co., Crown Point, N. Y. Belvidere Iron Co., 53 Broadway, New York. Sea Island Chemical Co., Beaufort, S. C.

## THE MIDVALE STEEL CO. TIRES and AXLES

OF EVERY DESCRIPTION.

TOOL-  
AND  
MACHINERY STEEL



SPRING AND GUN  
STEEL.

CRUCIBLE AND OPEN HEARTH STEEL.

Works & Main Office:

Niagara, Philadelphia, Pa.

BRANCH OFFICE:

333 Walnut St., Philadelphia, Pa.

## The Babcock & Wilcox Water Tube Boilers.

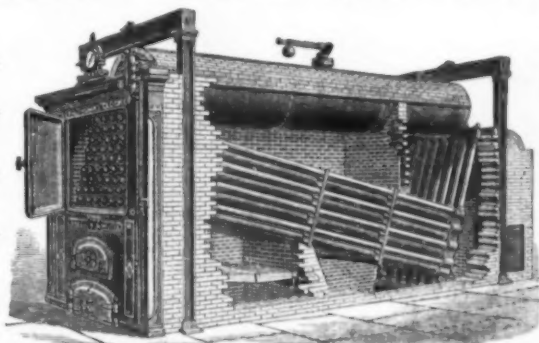
BRANCH OFFICES:

50 Oliver Street,  
Boston.

32 N. 5th St.,  
Philadelphia.

66 Fourth Ave.,  
Pittsburg.

54 Carondelet  
St., N. Orleans.



BRANCH OFFICES:

707 Market St.,  
St. Louis.

64 S. Canal St.,  
Chicago.

261 Mission St.,  
San Francisco.

San Ignacio,  
No. 50, Havana,  
Cuba.

107 Hope Street,  
Glasgow,  
Scotland.

Manufactured by the BABCOCK & WILCOX CO., 30 Cortlandt Street, NEW YORK.

# SAML. G. B. COOK & CO., HARDWARE

MANUFACTURERS' AGENTS  
63, 65, 67 and 69 German St., BALTIMORE, MD.

## AGENTS FOR

T. V. Allis Mfg. Co.—Buckthorn Wire.  
American Screw Co.—Screws, Rivets, Bolts, etc.  
Branford Lock Works.  
Boss Molasses Gates.  
Carr & Crawley.—Shelf and Carriage Hardware.  
Lancaster Bolt Co.—Eagle Carriage Bolts.  
Lawson & Brenizer.—Hay and Manure Forks.  
Meriden Britannia Co.—Rogers Bros.' As Plated Goods.  
Northwestern Horse Nail Co.  
Nicholson File Co.  
Nauvauk Cutlery Co.  
Globe Horse Nail Co.

Clark Hardware Co.—Spring Butts, Screen Frames, etc.  
Cowles Hardware Co.—Geers, Butts, Screw Drivers, etc.  
H. Chapin's Sons.—Rules, Levels, Gauges, etc.  
Clark Bros. & Co.—Bolts.  
Essex Horse Nails.  
A. Field & Sons.—Tacks, Finishing Nails, etc.  
Hubbard, Bakewell & Co.—Lippincott Axes, Saws, Shovels and Hoes.  
Holroyd & Co.—Stocks and Dies.  
Henry W. Kipp.—Hammers.  
Klein, Logan & Co.—Picks, Mattocks, Sledges, etc.  
Kimball's Patent Shovels and Spades.  
Lockwood Steel Hoes.

Peck Bros. & Co.—Brass Cocks.  
Payson Mfg. Co.—Building Hardware.  
Patton Mfg. Co.—Enameled and Tin'd Hollow Ware.  
Roy & Co.—Strap and T Hinges and Wrought Butts.  
Saranac Horse Nail Co.  
Scott Mfg. Co.—Peach and Apple Pearers, etc.  
George M. Scott.—Blacksmith Bellows.  
Wilson's Mfg. Co.—Coffee Mills, Vises and Ship Hardware.  
Walker's Horse and Mule Shoes.  
International and Pimlico Brand of Horse Nails, Foreign and Domestic Hardware, Cutlery, Chains, Pistols, etc.

## Scott's Rotary Knife Peach Parer

THE ONLY PEACH PARER, THE BEST APPLE PARER,  
MADE IN TWO SIZES: "FAMILY" AND "MAMMOTH."

—ALSO—

"IMPROVED VICTOR" Apple Parer, Corer and Slicer. "ORIOLE" Apple Parer, Corer and Slicer.

GOLD MEDAL APPLE PARER.

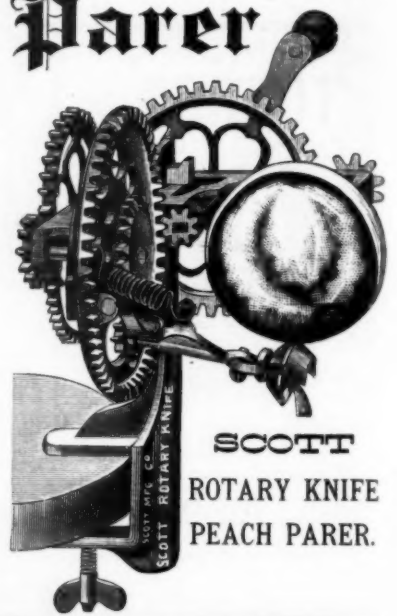
PHILIP'S Fruit and Vegetable Evaporator.

"UNIVERSAL" and "NEW IDEA" Can Openers.

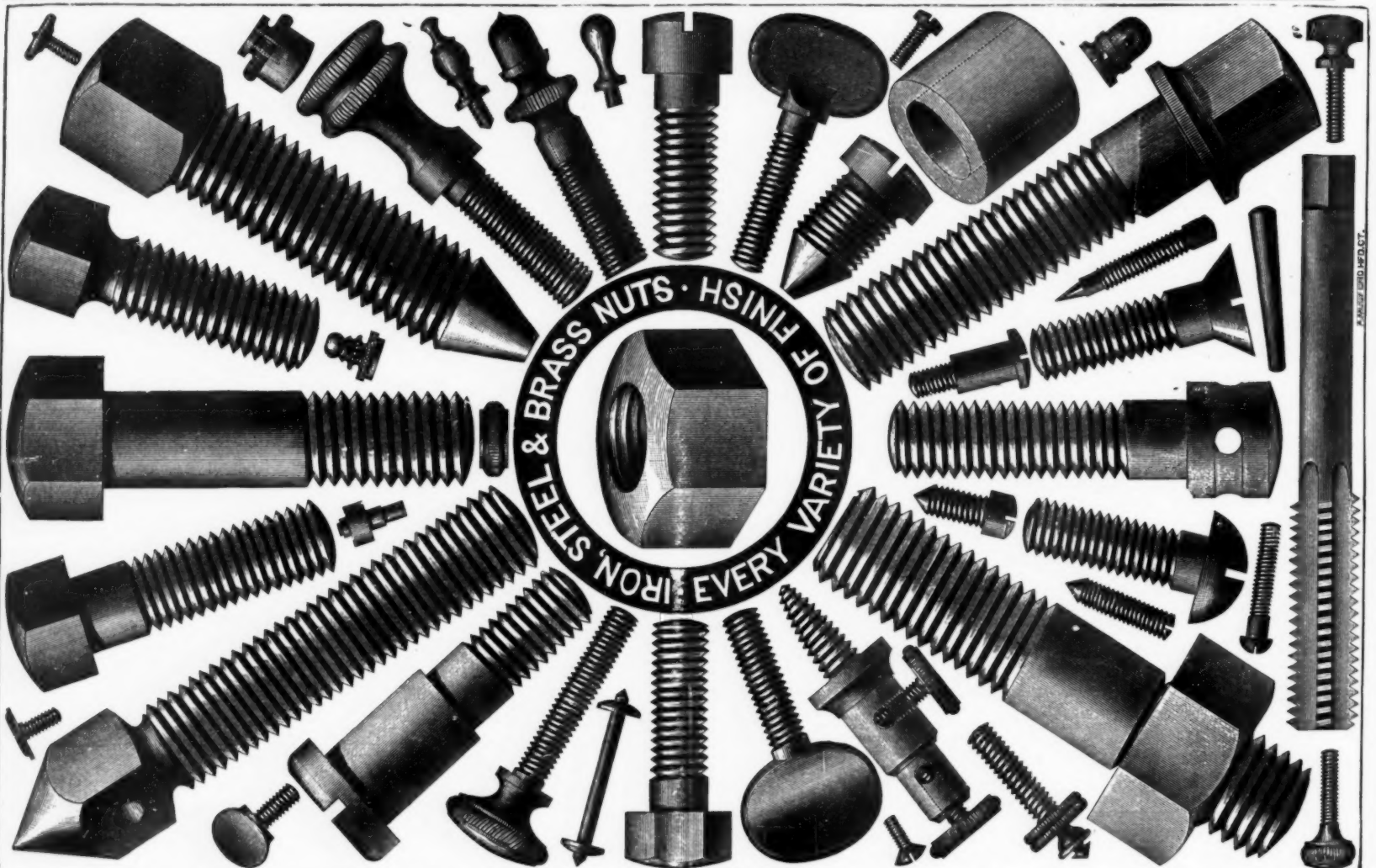
PATENT IRON FRAMED TRAYS FOR FRUIT EVAPORATORS.

IMPROVED 1884 HOPPER CHERRY SEEDER.

SCOTT MANUFACTURING CO., Baltimore, Md.



SCOTT  
ROTARY KNIFE  
PEACH PARER.



## The Hartford Machine Screw Company, Hartford, Conn.

—MANUFACTURERS OF—

Hexagon, Square, Round or Fillister Head Cap Screws, Oval Point and Cupped Point Set Screws, Collar Screws, Hanger Screws, Stud Bolts, Studs and Rolls.

Sewing Machine Screws, Gun Screws, Clock Screws and Trimmings, Piano Screws and Trimmings, Shear, Thumb and Watch Screws, Metal Dowel Pins for Pattern Work, Taper and Straight Pins of all Sizes. Taps and Reamers to match. Telegraph, Electrical and Optical Work. All kinds of Fancy Turned Metal Work. Many of the above varieties we carry in stock.

Small Screw Tools a Specialty.

Cheap Rotary Pumps for Supplying Machine Tools with Oil, Soda Water, &c.

The attention of Model Makers, Machine Builders and Buyers of Machine Screws is called to the fact that we carry in stock a great variety of Milled Machine Screws, including all Standard Sizes, with Taps to match.

By Referring to our Stock, much Time and Expense may be saved. PRICES Reasonable. Send for Lists.



## → HARDWARE. ←

## Baltimore WHOLESALE Prices.

ANVILS.	
Eagle and Vulcan.....	10 c. dis 20%
Wright's.....	10 1/2 c.
Armitage's Mouse Hole.....	9 1/2 c.
Trenton.....	10 1/2 c.
Wilkinson's.....	10 1/2 c.
AUGERS AND BITS.	
Conn. Valley Mfg. Co.....	dis 60%
Douglas Mfg. Co.....	from list of Ives
Cook's Douglas Mfg. Co.....	dis 40%
Grissold.....	dis 25%
Patent Solid Head.....	dis 25%
Russell Jennings' Auger, Dowel, Machine.....	dis 25%
Dowel and Hand Rail Bits.....	dis 10 1/2 c.
Ives' "Jennings" Bits.....	dis 40 1/2 c.
Expansive Bits, Clark's small, 1/8; large, 3/16.....	dis 25%
Expansive Bits, Ives'.....	dis 33 1/2%
Expansive Bits, Blake's.....	dis 40%
Hollow Augers, Ives'.....	dis 25%
Hollow Augers, Douglas'.....	dis 25%
Hol. Aug., Bonney's Adjust., 1/2 doz 1/4, dis 25 1/2 c.	
Hol. Aug., Stearns' Adjust., 1/2 doz 1/4, dis 20 1/2 c.	
Hol. Aug., Ives' Expansive, each 1/4, dis 30 1/2 c.	
Hol. Aug., Universal Expansive, each 1/4, dis 20 1/2 c.	
Wood's.....	dis 25%
Gimlet Bits.....	dis 50%
Gimlet Bits, Diamond.....	dis 40%
Double Cut Gimlet Bits, Shephardson's.....	dis 40%
Double Cut Gimlet Bits, Douglas'.....	dis 33 1/2%
Double Cut Gimlet Bits, Ives'.....	dis 50%
Morse's Bit Stock Drill.....	dis 25%
L. Hommedieu's Ship Auger.....	dis 15%
AWL HAFES.	
Sewing Brass Ferule.....	dis 40 1/2 c.
Patent Sewing, Short.....	dis 40 1/2 c.
Patent Sewing, Long.....	dis 40 1/2 c.
Patent Peg, Plain Top.....	dis 40 1/2 c.
Patent Peg, Leather Top.....	dis 40 1/2 c.
AWLS, BRAD SETS, AC.	
Awls, Sewing, Common.....	75c. to \$1
Awls, Shouldered Peg.....	75c. to \$1
Awls, Patent Peg.....	50c. to \$1.50
Awls, Shouldered Brad, 1/2 gross \$2.70—dis 25 1/2 c.	
Awls, Handled Brad.....	dis 25 1/2 c.
Brad Sets, Aiken's.....	dis 45 1/2 c.
Brad Sets, No. 42, 1/2 doz.....	dis 70%
Brad Sets, Stanley's Exc. No. 1, 1/2 doz.....	dis 30 1/2 c.
Brad Sets, Stanley's Exc. No. 2, 1/2 doz.....	dis 30 1/2 c.
Brad Sets, Stanley's Exc. No. 3, 1/2 doz.....	dis 30 1/2 c.
AXES.	
Collins & Co.....	dis 75%
Cohoes Mfg. Co.....	dis 75%
Lippincott or Mann's.....	dis 75%
Single Bit, 1/2 to 5/8 and under.....	dis 60% net
Single Bit, 1/2 to 5/8 and over.....	dis 60% net
Single Bit, beveled.....	dis 50c. advance
Double Bit, 1/2 to 5/8 and under.....	dis 120% net
Double Bit, 1/2 to 5/8 and over.....	dis 120% net
Double Bit, beveled.....	dis 120% net
Second quality Axes.....	50 cts. less than above
AXLES.	
Sheldon & Co., iron.....	55% off
" " steel.....	55% off
AXLE GREASE—FRATER'S.....	
AXLE GREASE—FRATER'S.....	10 c. dis 60%
BALANCES.	
Spring Balances.....	dis 40%
BELLS.	
Hand, Light Brass.....	dis 75%
Hand, White Metal.....	dis 60%
Hand, Silver Chime.....	dis 20 1/2 c.
Hand, Globe (Cone's Patent).....	dis 20 1/2 c.
Gong, Abbe's.....	dis 20 1/2 c.
Gong, Yankee.....	dis 30 1/2 c.
Gong, Barton's.....	dis 30 1/2 c.
Leon Reading.....	dis 25 1/2 c.
Pull, Brook's.....	dis 50 1/2 c.
Crank, Taylor's.....	dis 25 1/2 c.
Lever, Sargent's.....	dis 55 1/2 c.
Bloomfield.....	dis 20%
Call.....	dis 25%
Cow, Common Wrought.....	dis 55 1/2 c.
Cow, Western, Sargent's List.....	dis 55 1/2 c.
Cow, Kentucky, Sargent's List.....	dis 55 1/2 c.
Cow, Moore's or Dodge's, Genuine Ky., new list:	
Nos. 0 1 1/2 2 3 4 5 6 Hog 1 dis 60%	
1 1/2 2 3 4 5 6 Hog 2 dis 60%	
1 1/2 2 3 4 5 6 Hog 3 dis 60%	
Cow, Texas "Star".....	dis 40%
BELLGOWNS.	
Blacksmith's Common.....	dis 50%
Molder's.....	dis 25%
Hand Bellows.....	dis 25%
BLIND FASTENERS.	
Francis.....	dis 20%
Mackrell's.....	dis 20%
Van Sand's Screw Pattern.....	dis 10%
Van Sand's Old Pattern.....	dis 10%
Merriman's, 10 1/2 in.....	dis 20%
Zimmerman's, 10 1/2 in.....	dis 20%
Zimmerman's, 9 in.....	dis 20%
Zimmerman's, without screws.....	dis 20%
BLIND STAPLES.	
Barbed, 1/2 in. and larger.....	dis 10 c.
Barbed, 3/8 in.....	dis 10 c.
BLOCKS.	
Penfield Block Co., Rope and Iron Strap'd.....	dis 40%
BOLTS.	
Cast Iron Barrel Shutter, &c.....	dis 55 1/2 c.
Cast Iron Chain (Sargent's list).....	dis 60 1/2 c.
Wrought Barrel.....	dis 55 1/2 c.
Wrought Square.....	dis 55 1/2 c.
Wrt. Shutter, All Iron, Stanley's list.....	dis 50 1/2 c.
Wrt. Shutter, Brass Knob, Stanley's list.....	dis 50 1/2 c.
Wrought Shutter, Sargent's list.....	dis 55 1/2 c.
Wrought Sunk Flush, Sargent's.....	dis 60 1/2 c.
Wrought Sunk Flush, Stanley's.....	dis 60 1/2 c.
Wrought B. K. Flush, Stanley's.....	dis 50 1/2 c.
Carriage and Tire, Common, new list.....	dis 75%
Carriage and Tire, Philadelphia Pattern.....	dis 50%
Carriage Bolts, Clarke's.....	dis 80%
Norway.....	dis 75%
R. B. & W. Carriage (old list).....	dis 65%
Tire, American Screw Co's., Phila.....	dis 80%
Tire, "Bay State".....	dis 70%
Eagle Philadelphia Tire Bolt.....	dis 60%
Stove.....	dis 60%
Plow.....	dis 50 1/2 c.
Machine.....	dis 70%
Bolt Ends and Lag Screws.....	dis 70%
BONAX.	
150 lb net.....	dis 70%
BRACES.	
Q. S. Backus.....	dis 50%
Barber's.....	dis 40 1/2 c.
Spofford's Patent.....	dis 50 1/2 c.
Ive's Patent Braces.....	dis 50%
Common Ball (American).....	dis 55%
Amidon's.....	dis 50%
BORING MACHINES—WITHOUT AUGERS.	
Sweet & Clark upright, 3.60 augular.....	dis 40% net
Lawrence.....	dis 30%
Hubbard.....	dis 30%
Phillips, with Augers.....	dis 70%
BRACKETS.	
Shelf, plain.....	dis 50 1/2 c.
Shelf, fancy.....	dis 55 1/2 c.

BRIGHT WIRE GOODS.	
New list.....	dis 70c10c10
BULL RINGS.	
Union Nut Co.....	dis 55
Sargent's.....	dis 60c10
Humason, Beckley & Co's.....	dis 60c10
BUTTS.	
Wrought Brass.....	dis 75
Cast Brass, Fast Joint.....	dis 20c10
Cast Brass, Loose Joint.....	dis 10c10
Fast Joint, Narrow.....	dis 45c10c10
Fast Joint, Broad.....	dis 45c10c10
Loose Joint.....	dis 60c10c10
Loose Joint, Japanned.....	dis 60c10c10
Loose Joint, Jap, with Acorns.....	dis 60c10c10
Parliament Butts.....	dis 60c10c10
Mayer's Hinges.....	dis 60c10c10
Loose Pin, no Acorn.....	dis 60c10c10
Loose Pin, Acorns.....	dis 60c10c10
Loose Pin, Acorns, Japanned.....	dis 60c10c10
Loose Pin, Acorns, Jap'd, Plated.....	dis 60c10c10
Tips.....	dis 60c10c10
Wrought Iron.	
Fast Joint, Narrow.....	dis 60c10
Fast Joint, Lt. Narrow.....	dis 60c10
Fast Joint, Broad.....	dis 60c10
Loose Joint, Broad.....	dis 60c10
Table Butts, Back Flaps, &c.....	dis 60c10
Inside Blind, Regular.....	dis 60c10
Inside Blind, Light.....	dis 60c10
Loose Pin, Wrt.....	dis 60c10
Loose Pin, Light.....	dis 60c10
Spring Hinges.	
Geer's Spring and Blank Butts.....	dis 25
Clarke Hardware Co's.....	dis 50c10
American Spring Hinge Co's.....	dis 25
Gem Spring Hinges.....	dis 25
Blind Butts, Shepard's, Nos. 50 and 60.....	dis 70
Blind Butts, Shepard's, No. 50.....	dis 70c5
Blind Butts, Shepard's, No. 75.....	dis 70c10
Blind Butts, Lull & Porter.....	dis 75
Blind Butts, Huffer.....	dis 50
Blind Butts, Clark's, Nos. 1, 3, 5.....	dis 70c10
Standard Lull & Porter.....	dis 75
BOW PINS.	
Humason, Beckley & Co's.....	dis 55c5
Sargent & Co's.....	\$19.70 and 21.40; dis 60c10
Hotchkiss.....	dis 25
BUTCHER'S CLEAVERS.	
Humason & Beckley Mfg. Co.....	dis 25
Bradley's.....	dis 25
Beatty's.....	dis 35c5
1 2 3 4 5 6 7 8	
\$16.50 19.00 21.50 24.00 27.00 30.00 33.50 36.50	
CANE OPENERS.	
American.....	gross \$7.50, dis 10c10
New Idea.....	\$15.00 gross
No. 4, French.....	doz \$2.25, dis 55
No. 5, Iron Handle.....	gross \$7.50, dis 10c10
Sardine Scissors.....	doz \$7.00, dis 55
Sprague, No. 1, 1/2; No. 2, 1/2; No. 3, 1/2; No. 4, 1/2; No. 5, 1/2; No. 6, 1/2; No. 7, 1/2; No. 8, 1/2; No. 9, 1/2; No. 10, 1/2; No. 11, 1/2; No. 12, 1/2; No. 13, 1/2; No. 14, 1/2; No. 15, 1/2; No. 16, 1/2; No. 17, 1/2; No. 18, 1/2; No. 19, 1/2; No. 20, 1/2; No. 21, 1/2; No. 22, 1/2; No. 23, 1/2; No. 24, 1/2; No. 25, 1/2; No. 26, 1/2; No. 27, 1/2; No. 28, 1/2; No. 29, 1/2; No. 30, 1/2; No. 31, 1/2; No. 32, 1/2; No. 33, 1/2; No. 34, 1/2; No. 35, 1/2; No. 36, 1/2; No. 37, 1/2; No. 38, 1/2; No. 39, 1/2; No. 40, 1/2; No. 41, 1/2; No. 42, 1/2; No. 43, 1/2; No. 44, 1/2; No. 45, 1/2; No. 46, 1/2; No. 47, 1/2; No. 48, 1/2; No. 49, 1/2; No. 50, 1/2; No. 51, 1/2; No. 52, 1/2; No. 53, 1/2; No. 54, 1/2; No. 55, 1/2; No. 56, 1/2; No. 57, 1/2; No. 58, 1/2; No. 59, 1/2; No. 60, 1/2; No. 61, 1/2; No. 62, 1/2; No. 63, 1/2; No. 64, 1/2; No. 65, 1/2; No. 66, 1/2; No. 67, 1/2; No. 68, 1/2; No. 69, 1/2; No. 70, 1/2; No. 71, 1/2; No. 72, 1/2; No. 73, 1/2; No. 74, 1/2; No. 75, 1/2; No. 76, 1/2; No. 77, 1/2; No. 78, 1/2; No. 79, 1/2; No. 80, 1/2; No. 81, 1/2; No. 82, 1/2; No. 83, 1/2; No. 84, 1/2; No. 85, 1/2; No. 86, 1/2; No. 87, 1/2; No. 88, 1/2; No. 89, 1/2; No. 90, 1/2; No. 91, 1/2; No. 92, 1/2; No. 93, 1/2; No. 94, 1/2; No. 95, 1/2; No. 96, 1/2; No. 97, 1/2; No. 98, 1/2; No. 99, 1/2; No. 100, 1/2; No. 101, 1/2; No. 102, 1/2; No. 103, 1/2; No. 104, 1/2; No. 105, 1/2; No. 106, 1/2; No. 107, 1/2; No. 108, 1/2; No. 109, 1/2; No. 110, 1/2; No. 111, 1/2; No. 112, 1/2; No. 113, 1/2; No. 114, 1/2; No. 115, 1/2; No. 116, 1/2; No. 117, 1/2; No. 118, 1/2; No. 119, 1/2; No. 120, 1/2; No. 121, 1/2; No. 122, 1/2; No. 123, 1/2; No. 124, 1/2; No. 125, 1/2; No. 126, 1/2; No. 127, 1/2; No. 128, 1/2; No. 129, 1/2; No. 130, 1/2; No. 131, 1/2; No. 132, 1/2; No. 133, 1/2; No. 134, 1/2; No. 135, 1/2; No. 136, 1/2; No. 137, 1/2; No. 138, 1/2; No. 139, 1/2; No. 140, 1/2; No. 141, 1/2; No. 142, 1/2; No. 143, 1/2; No. 144, 1/2; No. 145, 1/2; No. 146, 1/2; No. 147, 1/2; No. 148, 1/2; No. 149, 1/2; No. 150, 1/2; No. 151, 1/2; No. 152, 1/2; No. 153, 1/2; No. 154, 1/2; No. 155, 1/2; No. 156, 1/2; No. 157, 1/2; No. 158, 1/2; No. 159, 1/2; No. 160, 1/2; No. 161, 1/2; No. 162, 1/2; No. 163, 1/2; No. 164, 1/2; No. 165, 1/2; No. 166, 1/2; No. 167, 1/2; No. 168, 1/2; No. 169, 1/2; No. 170, 1/2; No. 171, 1/2; No. 172, 1/2; No. 173, 1/2; No. 174, 1/2; No. 175, 1/2; No. 176, 1/2; No. 177, 1/2; No. 178, 1/2; No. 179, 1/2; No. 180, 1/2; No. 181, 1/2; No. 182, 1/2; No. 183, 1/2; No. 184, 1/2; No. 185, 1/2; No. 186, 1/2; No. 187, 1/2; No. 188, 1/2; No. 189, 1/2; No. 190, 1/2; No. 191, 1/2; No. 192, 1/2; No. 193, 1/2; No. 194, 1/2; No. 195, 1/2; No. 196, 1/2; No. 197, 1/2; No. 198, 1/2; No. 199, 1/2; No. 200, 1/2; No. 201, 1/2; No. 202, 1/2; No. 203, 1/2; No. 204, 1/2; No. 205, 1/2; No. 206, 1/2; No. 207, 1/2; No. 208, 1/2; No. 209, 1/2; No. 210, 1/2; No. 211, 1/2; No. 212, 1/2; No. 213, 1/2; No. 214, 1/2; No. 215, 1/2; No. 216, 1/2; No. 217, 1/2; No. 218, 1/2; No. 219, 1/2; No. 220, 1/2; No. 221, 1/2; No. 222, 1/2; No. 223, 1/2; No. 224, 1/2; No. 225, 1/2; No. 226, 1/2; No. 227, 1/2; No. 228, 1/2; No. 229, 1/2; No. 230, 1/2; No. 231, 1/2; No. 232, 1/2; No. 233, 1/2; No. 234, 1/2; No. 235, 1/2; No. 236, 1/2; No. 237, 1/2; No. 238, 1/2; No. 239, 1/2; No. 240, 1/2; No. 241, 1/2; No. 242, 1/2; No. 243, 1/2; No. 244, 1/2; No. 245, 1/2; No. 246, 1/2; No. 247, 1/2; No. 248, 1/2; No. 249, 1/2; No. 250, 1/2; No. 251, 1/2; No. 252, 1/2; No. 253, 1/2; No. 254, 1/2; No. 255, 1/2; No. 256, 1/2; No. 257, 1/2; No. 258, 1/2; No. 259, 1/2; No. 260, 1/2; No. 261, 1/2; No. 262, 1/2; No. 263, 1/2; No. 264, 1/2; No. 265, 1/2; No. 266, 1/2; No. 267, 1/2; No. 268, 1/2; No. 269, 1/2; No. 270, 1/2; No. 271, 1/2; No. 272, 1/2; No. 273, 1/2; No. 274, 1/2; No. 275, 1/2; No. 276, 1/2; No. 277, 1/2; No. 278, 1/2; No. 279, 1/2; No. 280, 1/2; No. 281, 1/2; No. 282, 1/2; No. 283, 1/2; No. 284, 1/2; No. 285, 1/2; No. 286, 1/2; No. 287, 1/2; No. 288, 1/2; No. 289, 1/2; No. 290, 1/2; No. 291, 1/2; No. 292, 1/2; No. 293, 1/2; No. 294, 1/2; No. 295, 1/2; No. 296, 1/2; No. 297, 1/2; No. 298, 1/2; No. 299, 1/2; No. 300, 1/2; No. 301, 1/2; No. 302, 1/2; No. 303, 1/2; No. 304, 1/2; No. 305, 1/2; No. 306, 1/2; No. 307, 1/2; No. 308, 1/2; No. 309, 1/2; No. 310, 1/2; No. 311, 1/2; No. 312, 1/2; No. 313, 1/2; No. 314, 1/2; No. 315, 1/2; No. 316, 1/2; No. 317, 1/2; No. 318, 1/2; No. 319, 1/2; No. 320, 1/2; No. 321, 1/2; No. 322, 1/2; No. 323, 1/2; No. 324, 1/2; No. 325, 1/2; No. 326, 1/2; No. 327, 1/2; No. 328, 1/2; No. 329, 1/2; No. 330, 1/2; No. 331, 1/2; No. 332, 1/2; No. 333, 1/2; No. 334, 1/2; No. 335, 1/2; No. 336, 1/2; No. 337, 1/2; No. 338, 1/2; No. 339, 1/2; No. 340, 1/2; No. 341, 1/2; No. 342, 1/2; No. 343, 1/2; No. 344, 1/2; No. 345, 1/2; No. 346, 1/2; No. 347, 1/2; No. 348, 1/2; No. 349, 1/2; No. 350, 1/2; No. 351, 1/2; No. 352, 1/2; No. 353, 1/2; No. 354, 1/2; No. 355, 1/2; No. 356, 1/2; No. 357, 1/2; No. 358, 1/2; No. 359, 1/2; No. 360, 1/2; No. 361, 1/2; No. 362, 1/2; No. 363, 1/2; No. 364, 1/2; No. 365, 1/2; No. 366, 1/2; No. 367, 1/2; No. 368, 1/2; No. 369, 1/2; No. 370, 1/2; No. 371, 1/2; No. 372, 1/2; No. 373, 1/2; No. 374, 1/2; No. 375, 1/2; No. 376, 1/2; No. 377, 1/2; No. 378, 1/2; No. 379, 1/2; No. 380, 1/2; No. 381, 1/2; No. 382, 1/2; No. 383, 1/2; No. 384, 1/2; No. 385, 1/2; No. 386, 1/2; No. 387, 1/2; No. 388, 1/2; No. 389, 1/2; No. 390, 1/2; No. 391, 1/2; No. 392, 1/2; No. 393, 1/2; No. 394, 1/2; No. 395, 1/2; No. 396, 1/2; No. 397, 1/2; No. 398, 1/2; No. 399, 1/2; No. 400, 1/2; No. 401, 1/2; No. 402, 1/2; No. 403, 1/2; No. 404, 1/2; No. 405, 1/2; No. 406, 1/2; No. 407, 1/2; No. 408, 1/2; No. 409, 1/2; No. 410, 1/2; No. 411, 1/2; No. 412, 1/2; No. 413, 1/2; No. 414, 1/2; No. 415, 1/2; No. 416, 1/2; No. 417, 1/2; No. 418, 1/2; No. 419, 1/2; No. 420, 1/2; No. 421, 1/2; No. 422, 1/2; No. 423, 1/2; No. 424, 1/2; No. 425, 1/2; No. 426, 1/2; No. 427, 1/2; No. 428, 1/2; No. 429, 1/2; No. 430, 1/2; No. 431, 1/2; No. 432, 1/2; No. 433, 1/2; No. 434, 1/2; No. 435, 1/2; No. 436, 1/2; No. 437, 1/2; No. 438, 1/2; No. 439, 1/2; No. 440, 1/2; No. 441, 1/2; No. 442, 1/2; No. 443, 1/2; No. 444, 1/2; No. 445, 1/2; No. 446, 1/2; No. 447, 1/2; No. 448, 1/2; No. 449, 1/2; No. 450, 1/2; No. 451, 1/2; No. 452, 1/2; No. 453, 1/2; No. 454, 1/2; No. 455, 1/2; No. 456, 1/2; No. 457, 1/2; No. 458, 1/2; No. 459, 1/2; No. 460, 1/2; No. 461, 1/2; No. 462, 1/2; No. 463, 1/2; No. 464, 1/2; No. 465, 1/2; No. 466, 1/2; No. 467, 1/2; No. 468, 1/2; No. 469, 1/2; No. 470, 1/2; No. 471, 1/2; No. 472, 1/2; No. 473, 1/2; No. 474, 1/2; No. 475, 1/2; No. 476, 1/2; No. 477, 1/2; No. 478, 1/2; No. 479, 1/2; No. 480, 1/2; No. 481, 1/2; No. 482, 1/2; No. 483, 1/2; No. 484, 1/2; No. 485, 1/2; No. 486, 1/2; No. 487, 1/2; No. 488, 1/2; No. 489, 1/2; No. 490, 1/2; No. 491, 1/2; No. 492, 1/2; No. 493, 1/2; No. 494, 1/2; No. 495, 1/2; No. 496, 1/2; No. 497, 1/2; No. 498, 1/2; No. 499, 1/2; No. 500, 1/2; No. 501, 1/2; No. 502, 1/2; No. 503, 1/2; No. 504, 1/2; No. 505, 1/2; No. 506, 1/2; No. 507, 1/2; No. 508, 1/2; No. 509, 1/2; No. 510, 1/2; No. 511, 1/2; No. 512, 1/2; No. 513, 1/2; No. 514, 1/2; No. 515, 1/2; No. 516, 1/2; No. 517, 1/2; No. 518, 1/2; No. 519, 1/2; No. 520, 1/2; No. 521, 1/2; No. 522, 1/2; No. 523, 1/2; No. 524, 1/2; No. 525, 1/2; No. 526, 1/2; No. 527, 1/2; No. 528, 1/2; No. 529, 1/2; No. 530, 1/2; No. 531, 1/2; No. 532, 1/2; No. 533, 1/2; No. 534, 1/2; No. 535, 1/2; No. 536, 1/2; No. 537, 1/2; No. 538, 1/2; No. 539, 1/2; No. 540, 1/2; No. 541, 1/2; No. 542, 1/2; No. 543, 1/2; No. 544, 1/2; No. 545, 1/2; No. 546, 1/2; No. 547, 1/2; No. 548, 1/2; No. 549, 1/2; No. 550, 1/2; No. 551, 1/2; No. 552, 1/2; No. 553, 1/2; No. 554, 1/2; No. 555, 1/2; No. 556, 1/2; No. 557, 1/2; No. 558, 1/2; No. 559, 1/2; No. 560, 1/2; No. 561, 1/2; No. 562, 1/2; No. 563, 1/2; No. 564, 1/2; No. 565, 1/2; No. 566, 1/2; No. 567, 1/2; No. 568, 1/2; No. 569, 1/2; No. 570, 1/2; No. 571, 1/2; No. 572, 1/2; No. 573, 1/2; No. 574, 1/2; No. 575, 1/2; No. 576, 1/2; No. 577, 1/2; No. 578, 1/2; No. 579, 1/2; No. 580, 1/2; No. 581, 1/2; No. 582, 1/2; No. 583, 1/2; No. 584, 1/2; No. 585, 1/2; No. 586, 1/2; No. 587, 1/2; No. 588, 1/2; No. 589, 1/2; No. 590, 1/2; No. 591, 1/2; No. 592, 1/2; No. 593, 1/2; No. 594, 1/2; No. 595, 1/2; No. 596, 1/2; No. 597, 1/2; No. 598, 1/2; No. 599, 1/2; No. 600, 1/2; No. 601, 1/2; No. 602, 1/2; No. 603, 1/2; No. 604, 1/2; No. 605, 1/2; No. 606, 1/2; No. 607, 1/2; No. 608, 1/2; No. 609, 1/2; No. 610, 1/2; No. 611, 1/2; No. 612, 1/2; No. 613, 1/2; No. 614, 1/2; No. 615, 1/2; No. 616, 1/2; No. 617, 1/2; No. 618, 1/2; No. 619, 1/2; No. 620, 1/2; No. 621, 1/2; No. 622, 1/2; No. 623, 1/2; No. 624, 1/2; No. 625, 1/2; No. 626, 1/2; No. 627, 1/2; No. 628, 1/2; No. 629, 1/2; No. 630, 1/2; No. 631, 1/2; No. 632, 1/2; No. 633, 1/2; No. 634, 1/2; No. 635, 1/2; No. 636, 1/2; No. 637, 1/2; No. 638, 1/2; No. 639, 1/2; No. 640, 1/2; No. 641, 1/2; No. 642, 1/2; No. 643, 1/2; No. 644, 1/2; No. 645, 1/2; No. 646, 1/2; No. 647, 1/2; No. 648, 1/2; No. 649, 1/2; No. 650, 1/2; No. 651, 1/2; No. 652, 1/2; No. 653, 1/2; No. 654, 1/2; No. 655, 1/2; No. 656, 1/2; No. 657, 1/2; No. 658, 1/2; No. 659, 1/2; No. 660, 1/2; No. 661, 1/2; No. 662, 1/2; No. 663, 1/2; No. 664, 1/2; No. 665, 1/2; No. 666, 1/2; No. 667, 1/2; No. 668, 1/2; No. 669, 1/2; No. 670, 1/2; No. 671, 1/2; No. 672, 1/2; No. 673, 1/2; No. 674, 1/2; No. 675, 1/2; No. 676, 1/2; No. 677, 1/2; No. 678, 1/2; No. 679, 1/2; No. 680, 1/2; No. 681, 1/2; No. 682, 1/2; No. 683, 1/2; No. 684, 1/2; No. 685, 1/2; No. 686, 1/2; No. 687, 1/2; No. 688, 1/2; No. 689, 1/2; No. 690, 1/2; No. 691, 1/2; No. 692, 1/2; No. 693, 1/2; No. 694, 1/2; No. 695, 1/2; No. 696, 1/2; No. 697, 1/2; No. 698, 1/2; No. 699, 1/2; No. 700, 1/2; No. 701, 1/2; No. 702, 1/2; No. 703, 1/2; No. 704, 1/2; No. 705, 1/2; No. 706, 1/2; No. 707, 1/2; No. 708, 1/2; No. 709, 1/2; No. 710, 1/2; No. 711, 1/2; No. 712, 1/2; No. 713, 1/2; No. 714, 1/2; No. 715, 1/2; No. 716, 1/2; No. 717, 1/2; No. 718, 1/2; No. 719, 1/2; No. 720, 1/2; No. 721, 1/2; No. 722, 1/2; No. 723, 1/2; No. 724, 1/2; No. 725, 1/2; No. 726, 1/2; No. 727, 1/2; No. 728, 1/2; No. 729, 1/2; No. 730, 1/2; No. 731, 1/2; No. 732, 1/2; No. 733, 1/2; No. 734, 1/2; No. 735, 1/2; No. 736, 1/2; No. 737, 1/2; No. 738, 1/2; No. 739, 1/2; No. 740, 1/2; No. 741, 1/2; No. 742, 1/2; No. 743, 1/2; No. 744, 1/2; No. 745, 1/2; No. 746, 1/2; No. 747, 1/2; No. 748, 1/2; No. 749, 1/2; No. 750, 1/2; No. 751, 1/2; No. 752, 1/2; No. 753, 1/2; No. 754, 1/2; No. 755, 1/2; No. 756, 1/2; No. 757, 1/2; No. 758, 1/2; No. 759, 1/2; No. 760, 1/2; No. 761, 1/2; No. 762, 1/2; No. 763, 1/2; No. 764, 1/2; No. 765, 1/2; No. 766, 1/2; No. 767, 1/2; No. 768, 1/2; No. 769, 1/2; No. 770, 1/2; No. 771, 1/2; No. 772, 1/2; No. 773, 1/2; No. 774, 1/2; No. 775, 1/2; No. 776, 1/2; No. 777, 1/2; No. 778, 1/2; No. 779, 1/2; No. 780, 1/2; No. 781, 1/2; No. 782, 1/2; No. 783, 1/2; No. 784, 1/2; No. 785, 1/2; No. 786, 1/2; No. 787, 1/2; No. 788, 1/2; No. 789, 1/2; No. 790, 1/2; No. 791, 1/2; No. 792, 1/2; No. 793, 1/2; No. 794, 1/2; No. 795, 1/2; No. 796, 1/2; No. 797, 1/2; No. 798, 1/2; No. 799, 1/2; No. 800, 1/2; No. 801, 1/2; No. 802, 1/2; No. 803, 1/2; No. 804, 1/2; No. 805, 1/2; No. 806, 1/2; No. 807, 1/2; No. 808, 1/2; No. 809, 1/2; No. 810, 1/2; No. 811, 1/2; No. 812, 1/2; No. 813, 1/2; No. 814, 1/2; No. 815, 1/2; No. 816, 1/2; No. 817, 1/2; No. 818, 1/2; No. 819, 1/2; No. 820, 1/2; No. 821, 1/2; No. 822, 1/2; No. 823, 1/2; No. 824, 1/2; No. 825, 1/2; No. 826, 1/2; No. 827, 1/2; No. 828, 1/2; No. 829, 1/2; No. 830, 1/2; No. 831, 1/2; No. 832, 1/2; No. 833, 1/2; No. 834, 1/2; No. 835, 1/2; No. 836, 1/2; No. 837, 1/2; No. 838, 1/2; No. 839, 1/2; No. 840, 1/2; No. 841, 1/2; No. 842, 1/2; No. 843, 1/2; No. 844, 1/2; No. 845, 1/2; No. 846, 1/2; No. 847, 1/2; No. 848, 1/2; No. 849, 1/2; No. 850, 1/2; No. 851, 1/2; No. 852, 1/2; No. 853, 1/2; No. 854, 1/2; No. 855, 1/2; No. 856, 1/2; No. 857, 1/2; No. 858, 1/2; No. 859, 1/2; No. 860, 1/2; No. 861, 1/2; No. 862, 1/2; No. 863, 1/2; No. 864, 1/2; No. 865, 1/2; No. 866, 1/2; No. 867, 1/2; No. 868, 1/2; No. 869, 1/2; No. 870, 1/2; No. 871, 1/2; No. 872, 1/2; No. 873, 1/2; No. 874, 1/2; No. 875, 1/2; No. 876, 1/2; No. 877, 1/2; No. 878, 1/2; No. 879, 1/2; No. 880, 1/2; No. 881, 1/2; No. 882, 1/2; No. 883, 1/2; No. 884, 1/2; No. 885, 1/2; No. 886, 1/2; No. 887, 1/2; No. 888, 1/2; No. 889, 1/2; No. 890, 1/2; No. 891, 1/2; No. 892, 1/2; No. 893, 1/2; No. 894, 1/2; No. 895, 1/2; No. 896, 1/2; No. 897, 1/2; No. 898, 1/2; No. 899, 1/2; No. 900, 1/2; No. 901, 1/2; No.	



**LAWN MOWERS.**

Acme Buckeye, Easy and Excelsior, new list, dis 40 %

**LINEAS.**

Linen Fish.....dis 25 & 10 %

Wire Clothes, Galvanized, 100 feet.....doz \$3.00

**LOCKS AND LATCHES.**

Cabinet, Eagle.....Changes made in list price

Cabinet, Gaylord.....of some numbers Jan. 1,

Cabinet, Bridgeport.....1881, dis 35 & 2 %

Cabinet, P. & F. Corbin.....dis 40 %

Trunk, new list, Jan 1, 1881.....dis 15 & 2 %

Yale Lock Co., Flat Key.....dis 40 %

Plate.....dis 33 1/2 & 2 %

**DOOR LOCKS, ETC.**

Bradford .....doz

Norwalk .....doz

Norwich.....doz

P. & F. Corbin.....doz

Russell & Erwin.....doz

Mallory, Wheeler & Co.....doz

Padlocks—Russell & Erwin.....doz

Mallory, Wheeler & Co.....dis 66 2/3 %

Norwich Lock Manf. Co.....and 55 for cash.

Wm. Wilcox & Co.....doz

Wm. Wilcox & Co's Plate Locks.....dis 33 1/2 %

Yale Lock Manf. Co's "Standard".....dis 40 %

Romer's.....dis 25 & 40 %

Conestoga.....dis 75 %

Scandinavian, "Norwich".....dis 50 & 10 %

**MALLETS.**

Penfield Block Co., Apple, Hickory and Lignumvitae.....dis 30 %

**MEAT CUTTERS.**

Dixon's (P. S. & W.) Nos. 1 2 3 4.....doz \$14 \$17 \$19 \$30-dis 35 %

Perry's, Nos. 1 2 3 4 4 gr'd 5 6 8.....doz

Each.....\$3 4 5 11 13 36 dis

Woodruff's (P. S. & W.).....Nos. 100 150

doz \$15 18-dis 35 %

Hales'.....Nos. 11 12 13

doz \$27 35 45-dis 50 & 10 & 2 %

Kieser's No. 55.....doz \$40

Kieser's Gem.....doz \$25

Kieser's No. 82.....doz \$40

Kieser's Monarch.....doz \$45

Beef Shaver, (Enterprise Manf. Co.).....dis 25 %

**MOLASSES GATES.**

Stebbins Patterns.....dis 70 & 10 %

Stebbins Genuine.....dis 67 1/2 & 10 %

Stebbins Tinned Ends.....dis 40 & 10 %

Chase's Rnd Metal.....dis 50 & 10 %

Self-Measuring, (Enterprise).....dis 60 & 10 %

Lincoln's Patterns.....dis 15 %

Woods'.....dis 15 %

Boss Nos. 1 2 3 4.....doz

Boss, Japanned Finish.....dis 60 & 10 & 10 %

doz, Bronze Finish.....dis 50 & 10 & 10 %

**NUTS AND WASHERS.**

Square Nuts.....8 c off list.

Hexagon Nuts.....8 1/2 c off list.

Washers.....7 1/2 c off list.

**OILERS.**

Zinc and Tin.....dis 60 & 10 %

Brass and Copper.....dis 50 %

Malleable (Hammer's).....doz \$5, dis 10 %

**PINKING IRONS.**

Per dozen.....75 cts. net

**PLATING MACHINES.**

Astor Plating Machine.....each \$15, dis 20 %

Crown Plating Machine.....dis 25 %

6 in., \$6; 10 in. \$8 each.

**PLANES AND PLANE IRONS.**

Bench, First Quality.....dis 20 %

Bench, Second Quality.....dis 25 %

Molding.....dis 15 %

Bailey's (Stanley R. & L. Co.) New list, Jan. 1879.....dis 20 & 10 %

"The Stanley (S. R. & L. Co.) new list, January 1879.....dis 20 & 10 %

Bailey's.....dis 20 & 10 %

Plane Irons, Butcher's.....\$5.50 to L

Plane Irons, Auburn Tool Co.....dis 20 %

Plane Iron, Ohio Tool Co.....dis 20 %

Plane Irons, Sandusky Tool Co.....dis 20 %

**PLIERS AND NIPPERS.**

Button's Patent.....dis 33 1/2 %

Hall's Pat. Compound Lever Cutting Nippers, No. 2, 5 in. \$13.50; No. 4, 7 in., \$21 doz., dis 25 %

Gas Pliers.....dis 50 %

**PLUMBS AND LEVELS.**

Disston's.....dis 40 %

Stanley R. & L. Co.'s Pat. Adjustable.....dis 65 & 10 %

Stanley R. & L. Co.'s Non-Adjustable.....dis 65 & 10 %

Stanley's Patent Adjustable.....dis 65 & 10 %

Chapin's Non-adjustable.....dis 65 & 10 %

Standard Rnd Mo.'s New Adjustable.....dis 65 & 10 %

Standard Rule Co.'s Non Adjustable.....dis 65 & 10 %

Pocket Levels.....dis 65 & 10 %

**RAIL.**

Sliding Door, Wrought Brass.....lb. 43c. dis 30 %

Sliding Door, Bronzed Wrt. Iron.....lb. 12c. dis 35 %

Sliding Door, Iron, Painted.....lb. ft. 4c. dis 10 & 10 %

Barn Door.....inch.....1/2 3/4 3/8

Per 100 feet.....\$2.60 3.60 5.60-dis 10 %

B. D. for N. E. Hangers.....Small. Large.

Per 100 feet.....\$2.10 2.70 3.00 net.

**RIVETS.**

Iron and Tinned, new list, Dec. 10, 1881.....dis 40 %

In bulk, new list, Dec. 10, 1881.....dis 40 %

Copper Rivets and Burrs.....dis 50 & 10 %

Nos. 7 8 9 10 11 12 13 14 15

lb. 49c. 50c. 52c. 54c. 56c. 58c. 60c. 65c. 70c.

RIVET SETS.....dis 40 %

**RODS.**

Stair, Brass.....dis 25 %

Stair, Black Walnut.....60c. doz.—net

**RULES.**

Boxwood. Ivory.

Chapin's.....dis 75 %

Standard.....dis 40 & 10 %

Stanley.....dis 100 %

Stevens & Co.....dis 70 & 10 %

Stevens & Co., Miscellaneous.....dis 50 & 10 %

**SAD IRONS.**

Self-Heating, Chiscol.....doz 90 cts. net

Mrs. Pott's Irons.....dis 35 %

Enterprise Star Irons, new list, July 20, '82.....dis 15 %

Comb d Pluter and Sad Iron.....doz \$15.00, dis 15 %

Common Sad Irons.....2 1/2 c doz

**SAND PAPER.**

Baeder & Adamson's Flint, 00 & 1/2.....\$4.50 per r.m.

Baeder & Adamson's Flint, 2, 2 1/2 & 3.....5.00 per r.m.

Baeder & Adamson's Flint, Assort'd.....4.75 per r.m.

Baeder & Adamson's Star.....3.75 per r.m.

Baeder & Adamson's Emery.....\$6.50 to \$11.50

J. Bartle's Sand, Flint and Emery Paper.....dis 30 & 5 %

**SASH CORD.**

Common.....lb. 12c. net

Patent.....lb. 17c. to 18c. net

Silver Braided Lake Hemp.....lb. 50c. dis 10 %

Silver Braid, Lake White Cotton, lb. 50c. dis 10 %

Silver Braided Lake Drab Cotton, lb. 55c. dis 10 %

Silver Lake Cable Laid, Bengall Unbleached Hemp, 17 cts.....dis 10 %

Russian Hemp, 19 cts.....dis 10 %

Italian Hemp, 34 cts.....dis 10 %

**SASH WEIGHTS.**

Solid Eyes, in 500-lb. lots and over, per lb. 1 1/4 c. net

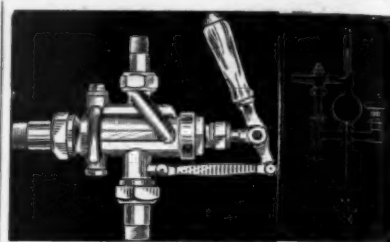
**SAUSAGE STUFFERS OR FILLERS.**

Miles.....doz. \$20, dis 35 & 5 %

Perry.....doz., No. 15; No. 0, \$21, dis 35 %

Enterprise Mfg. Co.		dis	25
Monarch.....	SAWS	dis	40
Boynton's Lightning Cross Cuts, new list.....		dis	40
Boynton's Circular and Mill.....		dis	40
Boynton's Ice.....		dis	25
Boynton's Lightning Hand, Panel and Rip.....		dis	25
Disston's Circular.....		dis	25
Disston's Mill.....		dis	40
Disston's Cross Cut.....		dis	40
Disston's Hand, Panel, Rip, &c.....		dis	20
Hubbard, Bakewell & Co. Circular Saws.....		dis	40
Hubbard, Bakewell & Co. One-Man's, X Cut.....		dis	40
Hubbard, Bakewell & Co., Mill Saws.....		dis	40
Peace Circular and Mill.....		dis	40
Peace Hand, Panel and Rip.....		dis	25
Peace Cross Cuts.....		dis	35
Peace Band Saws.....		dis	20
Webster Cross Cut, with handles.....		dis	25
Griffin's Hack Saws and Blades.....		dis	30
	SAW FRAMES.		
White.....		dis	10
Saw Rods.....		dis	10
	SAW SETS.		
Stillman's Genuine.....	per doz \$3.50 and \$5.50.....	dis	10
Stillman's Imitation.....	per doz \$3.25, dis	30	10
Common Lever.....	per doz \$2.00, dis	30	10
Leach's.....	No. 9, \$8.00; No. 1, \$15; dis	15	
Hammer, Hotchkiss.....	\$5.50, dis	10	
Aiken's Genuine.....	\$13.00, dis	50	10
Aiken's Imitation.....	\$7.00, dis	50	
Disston's.....		dis	20
Morrill's.....	No. 1, \$15; No. 5, \$52; dis	35	10
	SCALES.		
Hatch, Counter, No. 171.....	per doz \$42, dis	37½	10
Hatch, Tea, No. 161.....	per doz \$15.00, dis	37½	10
Union Platform, Keystone.....		dis	45
Chicago Scale Co.....		Special dis	
Fairbanks'.....		dis	20
Forsyth Scale Co.....		dis	45
Howe's.....		dis	20
Chatillon's Grocers'.....		dis	40
Chatillon's Eureka.....		dis	25
Family Universal.....		dis	50
Family Favorite.....		dis	30
Family Turnbull's.....		dis	30
Scale Beams, List of Jan. 12, 1882.....		dis	50
	SCRAPERS.		
Adjust. Box Scraper (S. R. & L. Co.).....	\$6.50, dis	20	10
Box, 1 Handle.....	per doz \$4, dis	10	
Box, 2 Handle.....	per doz \$6, dis	10	
Foot.....	dis	45	10
Chip, common.....	per doz \$3, net		
Wilson Mfg. Co.....		dis	10
	SCREW DRIVERS.		
Douglas Mfg. Co.....		dis	20
Diston's.....		dis	40
Kowles Mfg. Co.....		dis	50
Stanley Rule & Level Co.'s. Var. Hdl's.....		dis	20
Stanley Rule & Level Co.'s. Black Hdl's.....		dis	40
Tatchet.....		dis	33½
Clark's Patent.....	White.....	dis	25
Bepardon.....		dis	25
	SCREWS.		
Flat Head Iron, A. S. Co.'s list, Jan. 1, '85.....		dis	80
Round Head Iron.....		dis	75
Flat Head Brass.....		dis	25
Round Head Brass.....		dis	75
Flat Head Blued, add 2½ % to net of invoice.			
Brass and Silver Capped.....		dis	40
Spanned, list of Plain Screws.....		dis	72½
Coch, Patent Gimlet Point.....		dis	75
Coch, Common or Lag.....		dis	60
".....		dis	10
Jachine, Flat Head, Iron.....		dis	55
Jachine, Round Head, Iron.....		dis	50
ench, Iron.....		dis	50
ench, Wood, Beach.....	per doz \$3.00, dis	10	
ench, Wood, Hickory.....		dis	20
and, Wood.....		dis	20
and Rail, Sargent's.....		dis	60
and Rail, Humason, Beckley & Co.'s.....		dis	40
and Rail, Am. Screw Co., list Jan. 1, '81.....		dis	70
ack (Wilson's).....		dis	25
	SCREEN FRAMES AND FIXTURES.		
andard Window Screens No. 1.....	per doz \$4; 3, \$5		
" Door " No. 5.....	dis	40	10
" Window Corner Irons, No. 3, doz. st's.....	dis	81;	81;
" Door " No. 6.....	dis	83	
" Door Latches, per dozen.....	dis	36	00
Porter's Patent Window and Door Screen Frames:			
	PER DOZ. SETS.		
	In. Blk'		
	White. Walnut.		
o. 20.....	\$2.75	\$3.25	*
o. 21.....	2.25	4.00	
o. 22.....	5.00	6.75	
o. 23.....	6.50	7.50	dis
o. 30.....	9.00	11.00	dis
Porter's Corners—			
o. Corners and Sticks complete for a			
three-foot window, per doz sets.....	\$4		
o. 1. Set for Window, per doz sets Bronzed,	\$2.40; Nickel, \$5.62		
o. 1½. " " per doz sets, Bronzed,	\$3.25; Nickel, \$7.50		
o. 4. " " per doz sets, Bronzed,	\$4.00; Nickel, \$8.00		
o. ½. " " or door, per doz sets,	\$1.00; Nickel, \$3.00		dis
o. 4½. " " or door, per doz sets,	\$2.00; Nickel, \$4.00		
o. 2½. " " Door, per doz sets, Bronzed,	\$6.75; Nickel, \$15.00		
o. 3. " " per doz sets, Bronzed,	\$12.00; Nickel, \$24.00		
	SHOVELS AND SCISSORS.		
American (Cast) Iron.....		dis	70
Aning.....	see Pruning Hooks and Shears		
arnard's Lamp Trimmers.....	per doz \$14.00		
anners.....	dis	15	
ssachusetts.....	dis	80	10
rmour's.....	dis	60	10
sey Shears.....		dis	80
Wiss & Son, Nickle, 50¢ & 5; Japanned, 60¢ & 5			
	SHEAVES.		
ding Door, M. W. & Co., List.....	dis	45	10
ding Door, R. & E. list.....	dis	60	10
ding Door, Patent Roller.....	dis	60	10
ding Door, Pt. Roller, Hatfield's.....	dis	60	10
ding Door, Russell's Anti-Friction.....	dis	60	10
	Also see Hangers.		
	SHOVELS AND SPADES.		
es, New List, July 1, 1881.....		dis	15
ifts.....		dis	50
ington's (Lowman's Patent).....		dis	20
land's.....		dis	60
balls.....		dis	35
incourt, new list.....		dis	20
ey, Bins & Co.....		dis	15
	SPOKE TRIMMERS.		
ney's.....	per doz \$10, dis	40	5
arns'.....	per doz \$9, dis	20	10
".....	No. 1, \$15; No. 2, \$12 per doz, dis	55	10
nglass'.....	per doz \$9, dis	15	
	SILVER PLATED WARE.		
g. Rogers Mnf. Co.....	dis	50,	5
mes, Booth & Hayden.....	dis	40	10
Wren Bros.....	dis	40	10
Place's Steel Silver Plated.....	dis	33½	10
gros Bros 1847.....	dis	40	50
Rogers & B.....	dis	40	10

SILVER PLATED HOLLOW WARE.	
Wm. Rogers Manf. Co.	dis 40, 15 & 8
Meriden Britannia Co.	dis 33 & 5
SPOONS.	
Britannia	dis 60 & 10
Tinned, Iron, Table and Tea.	dis 65
Tinned Iron Basting.	dis 65
German Silver	dis 40
STONE.	
Hindustan No. 1, 3c; Axe, 8c.	net
Sand Stone	lb 6c, dis 33 & 10
Washita Stone.	No. 1, lb 15c, net
Washita Stone, Slips.	No. 1, lb 45c, net
Arkansas	\$1.50 lb net
SQUARES.	
Steel	dis 50 & 5; full cases, dis 50 & 10
Iron	dis 50 & 5; full cases, dis 50 & 10
Nickel Plated	add \$2.50 & 4 doz net.
Try Square and T Bevels.	dis 50 & 10
Diston's Try Square and T Bevels.	dis 40
TACKS, BRADS, &C.	
New List, Sept. 1, 1882.	
Tinned Swedes Tacks	dis 50 & 5
Tinned American Tacks	dis 50 & 5
Swedes Tacks, all kinds	dis 50 & 5
American Cut Tacks	dis 50 & 5
Copper Tacks and Nails	dis 50 & 5
Hungarian Nails	dis 35 & 5
Gimp and Lace Tacks	dis 30 & 5
Gimp and Lace Tacks, Tinned.	dis 30 & 5
Finishing Nails	dis 40 & 5
Trunk and Clout Nails	dis 30 & 5
Common and Patent Brads	dis 30 & 5
Basket Nails	dis 30 & 5
Brush Tacks	dis 20 & 5
Leathered Carpet Tacks	dis 20 & 5
Cigar Box Nails	dis 40 & 5
Chair Nails	dis 30 & 5
Double-pointed Tacks	dis 70 & 10
TAP BORERS.	
Common and Ring	dis 20 & 5
Live's Tap Borers	dis 15 & 10
Enterprise Mfg. Co.	dis 25
TOBACCO CUTTERS.	
Enterprise Mfg. Co (Champion)	dis 25
Wood Bottom	doz \$12.00, dis 40 & 5
All Iron	doz \$9.50, dis 40 & 5
Wilson's	dis 35
THERMOMETERS.	
Fin Case	dis 75 & 10
Storm Glasses	\$3.25 doz
TOE CALKS.	
Winsted	lb 9c, dis 5 & 5
TRAPS.	
Game, Newhouse	dis 35 & 5
Game, Oneida Pattern	dis 60 & 10
Game, Blake's Patent	dis 40 & 10
Game, Wood, Choker	doz holes, 16c
House, Round Wire	doz \$1.50, dis 10 & 5
House Cage, Wire	doz \$2.50, dis 10 & 5
House, Catch-em-alive	doz \$2.50, dis 10 & 5
Cyclon Mouse	doz 75 ct
Steel, "Decoy"	doz \$10.00, dis 10 & 5
Belusion Mouse, per doz	\$1.50
TROWELS.	
Boothrop's Brick and Plastering	dis 25 & 5
Seed's Brick and Plastering	dis 15 & 5
Piston's Brick and Plastering	dis 20 & 5
Leement & Maynard's	dis 20 & 5
Forrad's Brick	dis 20 & 5
Forrad & Walby's	dis 20 & 5
Garden	dis 55 & 5
TRUCKS (WAREHOUSE, &C.)	
Handy Truck	\$2.50 net
Winfield Block Co. list, 1882	dis 35 & 5
ceerless, with Cogs, No. 3	\$4.00
ceerless, with Cogs, No. 4	\$6.00
ureka, No. 2	doz 42.00
VISES.	
Solid Box—Wilson's	dis 50 & 5
" Trenton	dis 45 & 5
" Iron City Tool Works	dis 50 & 5
ench—Wilson's	dis 45 & 5
" Trenton	dis 25 & 5
" Parker's	dis 20 & 5
" Prentiss	dis 25 & 5
" Bonney's	dis 35 & 5
ell Wheels	dis 60 & 10 & 10
WIRE.	
Crass and Copper, list of Jan. 17, 1884	dis 15 & 5
right and Annealed	Nos. 10 & 18, dis 50 & 10
right and Annealed	Nos. 10 & 26, dis 60 & 10
right and Annealed	Nos. 27 & 36, dis 70 & 5
oppered	Nos. 10 & 18, dis 50 & 5
alvanized, Nos. 10 to 18	Market list dis 40 & 5
inned, Nos. 10 to 18	dis 60 & 5
inned Brown Wire, Nos. 18 to 25	dis 60 & 5
nealed Fence, Nos. 8 & 9	dis 55 & 5
nealed Fence, Nos. 10 to 14	dis 50 & 10
ence Staples, Galvanized	lb 7 & 7 1/2 c
panned Barb Fence	lb 6 c
alvanized Barbed Fence	lb 6 c
ck Thorn Galvanized	lb 6 1/2 c
ck Wire	dis 40 & 5
othure Line Wire, Galvanized	\$2.75 doz
ire Cloth, green, drab and black	sq ft 2 c net
WRENCHES.	
American Adjustable	dis 45 & 5
xter's Adjustable "S," list Jan., 1880	dis 20 & 5
xter's Diagonal	dis 20 & 5
es Genuine	dis 20 & 5
es "Mechanics"	dis 60 & 10
es Pattern, Malleable	dis 75 & 5
es Pattern, Wrought	dis 60 & 10
ard Standard	dis 50 & 10
ard Agl.	dis 60 & 10
ways Ready	\$9.00—35 & 5
WRINGERS.	
	Per doz.
iversal, XX, No. 2 1/2	36.00
iversal, XX, No. 3	42.00
iversal, XX, No. 1 1/2	51.00
iversal, XX, No. 1	66.00
iversal, XX, No. 8	each 10.75
iversal, XX, No. 12	each 30.25
iversal, XX, No. 18	each 22.75
iversal, XX, No. 22	each 30.25
erless, no Cogs, No. 1	42.00
erless, with Cogs, No. 2 1/2	45.00
erless, with Cogs, No. 2	48.00
MISCELLANEOUS.	
diamond" Vegetable Grater	\$5.00 doz., 10 & 5
arty Knife Potato Parer	\$1.00 doz, net
ntallie Shingles	\$5.50 and \$6.50 per square.
ner Cherry Seeders	\$5.00 doz, net



## Buckeye \* Injectors.

— Lubricators, Wrenches, Etc. —  
For circulars address **CROSBY BROS. & CO.**  
242 Lake St., Chicago, Ill.

*Architectural Iron Works.*

**J. P. WALTON & CO.**  
CINCINNATI, OHIO.  
Manufacturers of all kinds of IRON WORK for building purposes,—Store Fronts, Columns, Lintels, Joists, Stairs, Railing, Roof-Trusses, Doors, Shutters, etc. Jail work a specialty. Write us for catalogues.

J. H. RATTERMANN, President.  
F. G. QUERR, Vice President.  
FRED BUSSE, Sec'y & Treas'r.

**THE U. S. VARNISH CO.**

CINCINNATI, - - - OHIO.  
258 and 260 Colerain Avenue.  
**LARGEST VARNISH FACTORY in the WEST**  
CHICAGO BRANCH, 47 STATE STREET.  
Mention this paper.

## PATENTS

PROCURED, REJECTED APPLICATIONS  
AMENDED AND PROSECUTED, IN-  
VENTORS DRAWINGS MADE.  
NO MODEL REQUIRED.


**J. A. HURDLE,**  
Tribune Building. - - New York.



Established 1840.  
Incorporated 1854



**The Thomas Bradford Co.,**  
Successors to




THOMAS BRADFORD & Co.  
Manufacturers of the celebrated  
Bradford's Portable Under  
Runner Mills, for corn, wheat

and middlings. First premium at Cincinnati Industrial Exposition, 1884. Send for illustrated catalogue. Address plainly

**THE THOMAS BRADFORD CO., 174,  
176 & 178 W. Second St., Cin., O.**

Trade: Send for cuts:  
Gratis.



Send for circulars; Gratis.  
Send 10 cents for Book of  
Rules.

**THE LIGOWSKY**



Clay Pigeon Co.

**Box 1,292,  
Cincinnati, Ohio.**

**Scribner's Lumber and Log Book.**

OVER ONE MIL-  
LION SOLD. Most  
complete book of

is kind ever published. Gives measurement of all kinds of Lam-

1882

...round timber; hints to lumber dealers; wood measure; speed of

regular saws; care  
f saws; cord-  
ood tables; fell-  
g trees; growth

ent, board, interest, stave and heading bolts, etc. Standard book throughout the United States and Canada

**G. W. FISHER, Box 238, Rochester, N. Y.**

## Results

# For Sale

50 Horse-Power Engine and Boiler,

*with Fittings.*  
*Spoke Lathes (made by Gleason,*

Philadelphia.)  
 About 40 *Pulleus*.

0 feet Shafting and Couplings for same.

*Law Arbors, Boxes, a Facer, Tenoner  
and Throating Machine for the*

and Throwing Machine for the  
manufacture of Spokes.  
(near) 25 horse power engine boiler

(new) 25 horse-power engine, boiler and pump; never been used.  
A bargain to any one wishing to buy

*A bargain to any one wishing to buy  
either as a speculation or for use.*

Address **E. T. ROBARDS, Sec'y,**  
**Henderson, Ky.**

\_\_\_\_\_



# The Manufacturers' Record,

## A WEEKLY PAPER.

Devoted to the Industrial Interests of the Southern States, having for its aim the Upbuilding of Southern Manufactures, and the Development of the Material Resources of the South.

BIGSBY & EDMONDS, Publishers, Baltimore.

Below are a few extracts from recent issues of Southern papers, showing the estimation in which the MANUFACTURERS' RECORD is held by those best capable of judging of the value of its work:

THE BALTIMORE MANUFACTURERS' RECORD has been doing a valuable work for the South in making a specialty of reporting Southern progress. No paper in the Union has more entitled itself to Southern gratitude than this enterprising and reliable journal. The RECORD has come to be a standard of authority in the matter of Southern advancement. Its labor has been remarkable in this work, and its care and accuracy phenomenal. As it has progressed in popular esteem, a few have endeavored to discredit its work. But all attempts have simply riveted it more strongly in public esteem. The recent publication in its issue of April 11th, of the development of the industrial interests of the South, has attracted general attention. The fine aggregate of \$30,591,000 of new capital invested in manufacturing is given. The figures, if possible, fall short of the mark, rather than overstate it. In getting up this valuable and accurate information, the editors of the RECORD underwent the enormous trouble of writing between 1,500 and 2,000 letters and postal cards. No journal has done more to bring Southern resources to Northern observation. Let our Southern press uphold the RECORD in its good labor. It has conferred an incalculable benefit upon our section.—*Chronicle and Constitutionalist*, Augusta, Ga.

Is doing a wonderful work for the South.—*Greensboro (Ky.) Messenger*.

The leading journal of its class in this country.—*Elkton (Md.) Whig*.

Our leading manufacturing organ of the South.—*Beaumont (Tex.) Enterprise*.

THE BALTIMORE MANUFACTURERS' RECORD is almost a real necessity to every live Southern manufacturer and would prove of value to every intelligent Southern man. It is devoted exclusively to the industrial development of the South, but is the most complete and reliable paper of the kind published anywhere. It is the only technical journal of which we know that, without being what is known by the stereotyped adjective "popular," is of real interest to the general reader.—*Shelby, N. C., New Era*.

Is accomplishing a work of inestimable value to our section of the country. There is no other journal in the country which contains so much valuable and thoroughly reliable information about the South. It has thrown itself heart and soul into the great and good work in which it is engaged, and has been a powerful factor in inaugurating and helping forward the march of Southern progress.—*Farmville (Va.) Journal*.

No more welcome journal, or one whose columns we take more pleasure in scanning, finds its way to our office than the MANUFACTURERS' RECORD, of Baltimore. . . . We would be gratified if some of our residents would read it long enough to become imbued with the spirit of progress its columns unfold, and then put the lessons they learn to practical use in our midst.—*Herald*, Claremont, Va.

No journal published in this country that shows more real interest in the development of the South in all its industries. It is always welcomed in our sanctum as the champion of Southern enterprise, and we find it is extensively quoted and more highly commended by the Southern press than any other trade paper in the Union.—*Citizen*, Canton, Miss.

PUBLISHES every week probably more information relative to Southern manufacturing, mining and railroad affairs than can be gathered from any other single source. It has in many ways contributed largely to the material development of the South, and deserves a wide circulation throughout the Southern States.—*Charleston, S. C., News and Courier*.

HAS closely and faithfully chronicled Southern industrial progress, and devotes itself with commendable zeal to the development of all the material resources of our section. It deserves the liberal encouragement of our people.—*Roanoke (Va.) Leader*.

Its editors have discernment enough to see that there is a bigger boom in store for this section than has yet been forecast, and it has labored zealously in aiding to unfold its resources.—*Daily Review*, Wilmington, N. C.

A well got up, lively and enterprising journal like the MANUFACTURERS' RECORD is just the right thing in the right place. No manufacturer, business man, or, in fact, anyone interested in the progress of the South, should be without it.—*The Commercial*, Newport News.

THE leading journal of its class in this country. Doing an excellent work through its close attention to all indications of industrial progress in the South. Recently it has secured a number of correspondents in Kentucky.—*Louisville, Ky., Daily Commercial*.

THE BALTIMORE MANUFACTURERS' RECORD is one of the ab'est industrial journals in the country.—*Atlanta (Ga.) Constitution*.

One of the best papers published in the United States for the accomplishment of the purpose to which it is devoted. It has done more to build up railroads, manufacturing and mining interests in the Southern States than all other instrumentalities combined, and deserves and should receive the liberal support of the Southern people. It is ably edited, valuable for its exhaustive statistical record of Southern industries and enterprises, finely printed and illustrated, and is worth ten times its subscription price to every mechanic, merchant and manufacturer in the Southern States. It has a large corps of able and painstaking contributors in the Southern States, and gathers up all the material facts. We find it invaluable in giving us much useful information about the South, of which we would know nothing without the MANUFACTURERS' RECORD.—*Commercial*, Pensacola, Fla.

Interesting, trustworthy and thorough. Has in many ways contributed to the material development of the South, and deserves a wide circulation throughout the South.—*Huntsville (Ala.) Mercury*.

THE BALTIMORE MANUFACTURERS' RECORD is authority on all new enterprises in the South.—*Annisdon (Ala.) Watchman*.

The leading journal of its class in this country. It is devoted exclusively to Southern material advancement, and each week contains a list of all new Southern industries. Its editorials are sound and readable.—*Charlottesville (Va.) Chronicle*.

ONE of the most welcome papers that comes to our office. It is devoted to the material prosperity of the South. Probably it has done more than any other paper for the material development and advancement of the South.—*Weekly*, Franklinton, N. C.

DOING a good work for the Southern States. It deserves the encouragement of all our business men.—*Times-Union*, Jacksonville, Fla.

One of the most interesting and useful journals that come to our table. It is the best source of information in regard to the progress of the industries of the South that we have in the country.—*Natchez (Miss.) Democrat*.

THE MANUFACTURERS' RECORD, of Baltimore, is doing a good work for the South.—*Dispatch*, Lexington, N. C.

A PUBLICATION that commends itself to every thoughtful, progressive Southern man. A complete synopsis of the development of all the industries of the South, presented in choice English and on most substantial facts. It is a weekly encyclopedia of Southern interests in all their varied ramifications.—*Sentinel*, Grenada, Miss.

THE MANUFACTURERS' RECORD is doing all in its power to advance the development of the material resources of the South. It deserves the assistance of every Southern journal and liberal patronage from our tradesmen. Its articles, always progressive, are well calculated to draw attention to our vast fields of undeveloped wealth, and its columns are perhaps more frequently quoted from than those of any paper of the kind published anywhere. The paper supplies a long-felt need in bringing facts with regard to the South before the people of the North and West.—*Wytheville (Va.) Enterprise*.

RANKS among the industrial papers of the country. Its weekly articles on Southern industrial progress are able, interesting and reliable.—*American Lumberman*, New Orleans, La.

THE South is rapidly growing in wealth and material prosperity, and its manufacturing interests are being largely developed. There are various reasons why this is so. Its great mineral resources, salubrious climate, are prime motors in this direction, but to no outside influence is so much due as to the MANUFACTURERS' RECORD.—*Harrisburg (Md.) Republican*.

Its statistics have not been successfully contradicted, although mildly doubted by the small section of the press that still lacks capacity to realize what a vigorous, virile worker and producer the giant young New South is.—*Times Democrat*, New Orleans, La.

ONE of the ablest and most earnest workers for the development of the industries of the South.—*New River Bulletin*, New River, Va.

AN energetic exponent of the marvellous resources of our section and its industrial enterprise, and has wide-spread circulation.—*The News*, Fredericksburg, Va.

THE MANUFACTURERS' RECORD has done more to build up Southern interests than any other paper of the South.—*Carthage (Tenn.) Mirror*.

## Desirable Cotton and Woolen Machinery FOR SALE.

All the Woolen Machinery of the Baltic Woolen Mills, located near Philadelphia, and consisting of six complete sets of Wool Cards, Spinning Machines, Broad and Narrow Fancy Looms, Twisters, and Finishing Machinery. To be sold in lots as wanted.  
Also the following named Cotton Machinery:  
24 36-inch Top Flat Cards, clothed, with Wellman Self-Stripper, all modern and first-class.  
15 40-inch Bridesburg Looms, 3 Drop Box, 12 Harness, with fixtures.  
32 Spinning Frames, 128 Spindles each, 2 1/2-inch Gauge, built by Whitin Machine Works.  
4 Slubbers and 6 Speeders, Lowell make.  
12 Rope Machines for making cotton or manilla rope 1/2 to 3/4 inches diameter.  
For full and accurate particulars and prices address

CEO. W. ARNOLD,  
TROY, N. Y.

## The Seibert Cylinder Oil-Cup Co.



THE SEIBERT CYLINDER OIL-CUP CO.  
53 Oliver St., Boston, Mass.

ESTABLISHED 1865.

## Steam Boilers

JOHN T. COLEMAN & SONS,  
Steam Boiler Works,  
Cor. Holliday and Pleasant Sts., Baltimore.

Manufacturers of all kinds of Steam and Bath Boilers, Smoke Stacks, Water Tanks, Lard Kettles, &c.  
Particular attention given to repairs.

—THE—  
**Sigourney Drill.**  
Perfect, Sensitive and Strong.  
Interchangeable, and has a Capacity unequalled.  
MADE BY  
The Sigourney Tool Co.  
MANUFACTURERS OF  
Special Machinery and Tools  
OF THE FINEST QUALITY.  
HARTFORD, - - CONN.  
Baltimore Agents, MORTON, REED & CO., 58 German Street.  
Send for Circular.

## THE BAY LINE

FOR—  
FORTRESS MONROE, NORFOLK and the SOUTH.

The Bay Line comprises the New and Elegant Steamers

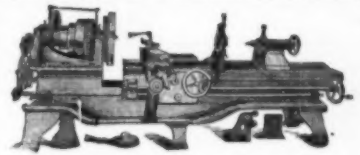
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baltimore daily except Sundays at 9 P. M.

At Old Point Comfort is located the SPLENDID HYGEIA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's office,  
157 W. BALTIMORE ST., BALTIMORE,  
Or on Board of Steamers.

D. J. HILL, Superintendent.  
E. BROWN, General Ticket Agent.

Established 1867.  
**E. HARRINGTON, SON & CO.**  
WORKS AND OFFICE,  
Cor. N. 15th St. & Penna. Ave., Philadelphia.  
Manufacturers of Patent Extension  
**LATHES,**



Iron Planers, Boring Mills, Drills,  
and a variety of other MACHINISTS' TOOLS.  
Patent Double Chain Screw Pulley Blocks, unrivalled for durability, safety and power.  
Patent Double Chain Quick-Lift Hoists, with Brake for quick and easy lowering.

REPRESENTED BY  
J. Q. MAYNARD, 12 Cortlandt St., New York.  
C. E. KIMBALL, 93 Oliver Street, Boston, Mass.  
W. H. RICKEY, 116 Main St., Cincinnati, Ohio.  
Circulars furnished.

**Bates' Hand Elevators.**  
Patented April 18, 1871. Reissued July 27, 1876.  
OVER 6,000 IN USE.  
Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions, and every place where merchandise, &c., is transferred from one story to another.  
**JAMES BATES, Patentee,**  
Nos. 1 3 & 5 President Street, BALTIMORE.

THE BRADSTREET  
**Mercantile Agency**  
HAS NOW BEEN  
Under its present successful management for the past seven years.

And during that time its business has more than trebled, while its facilities have proportionately increased.

No expense is considered too great in obtaining and applying to the conduct of the business all possible improvements. With its present system for obtaining and promulgating information, this Agency is justly regarded by its patrons as authority on all matters affecting commercial credit. Its ramifications are greater and its business larger than any similar organization in the world conducted in one interest and under one management.

You are respectfully invited to investigate, and if in need of an Agency, to test its ability to serve you.

**CHAS. F. CLARK, President.**  
Baltimore Office,—American Building,  
**H. KERSHAW, Supt.**

**RUE MANUFACTURING CO.**  
**INJECTORS.**  
"LITTLE GIANT"  
The Great Boiler Feeder.

Catalogue Free. Philadelphia, Pa.

**TAPS & DIES**  
**VISES**  
**CHUCKS**  
**DRILLS**  
**STILLS**  
**MACHINE**  
**SCREWS**  
**LATHES**  
**FILES**  
**STEEL**  
**STOCKS**  
**STUBS**  
TOOLS for Machinists, Amateurs, Jewellers, Model Makers, Blacksmiths, Carpenters, Coachmakers, etc.  
Send 25 cts. for new Metal Worker's Catalogue, 300 Pages.  
Wood Worker's Catalogue free.  
**TALLMAN & McFADDEN, Philadelphia, Pa.**

**UPRIGHT DRILLS**  
**CUT-OFF TOOLS**  
**TAP-DRILL GAUGES**



## What is Going on In and Around Birmingham.

BIRMINGHAM, ALA., July 2, 1885.

This section is on the eve of a big boom. Several prospectors have been investigating the surrounding country for the past week or two, and are favorably impressed—so much so that they are now examining and negotiating for lands, etc. They will, it is said, erect large stove works here. Other parties are here looking up industries of various kinds; and before fall begins this city and surrounding country will "blossom." Mr. C. P. Williamson, of this city, who already owns a large foundry and machine shop, will build a large blast furnace, work on which will be commenced about July 15. The Elyton Land Co., of this city, took \$100,000 worth of stock in this furnace.

There are now being finished and in course of erection 149 houses, including new stores. These are not shoddy buildings, but are good substantial houses—the business houses all being handsome brick buildings. Two new bank buildings are going up. When finished, there will be four solid banks in the city.

The Elyton Land Co. and the Board of Trade held a meeting together a few days ago, when all the members were present. After discussing various subjects, a member of the Board of Trade said he thought the Elyton Land Co. hadn't done as much for Birmingham as a corporation of its magnitude and character should do. To this, one of the directors of the Elyton Land Co. replied that they had assisted Birmingham's industries to the extent of \$660,000 by donating to them building lots and rendering assistance in various other ways; he also further stated that they were going to build the \$200,000 hotel and the large bridge which has been talked of for the past five or six months.

Some persons have censured the Elyton Land Company about showing indifference to the needs and wants of the city, but it must be remembered that they started the city, which has already gone beyond their expectations. They owned all the land on which Birmingham now stands, and they pay taxes on about one and one-half million dollars worth of property.

The Pratt Coal & Iron Co. will doubtless build their furnace during the coming fall. Business in every branch, it is hoped, will look up, and a reaction is expected. Manufacturing will then be finished and others started. Coal mines will be opened on every hand, and a general rush of business will set in. All our industries, machine works, rolling mills, furnaces, mines, &c., are running, and have never shut down during the dull season, and only two or three have reduced their force. No strikes will occur during the summer, and everything pertaining to dissatisfaction during the strike in the North was amicably settled. Furnaces that were shut down for repairs a month ago are now in blast, and I don't know of a single idle furnace to-day in the Birmingham district.

New ore mines continue to be opened. When the Georgia Pacific Railroad is completed to Columbus, Miss., the Walker county (the richest mineral county in Alabama) region will be opened, its coal fields operated, and business between the two sections commenced.

Business in the mercantile line is somewhat dull at present, although not discouraging. Merchants realize the fact that it is dull throughout the entire country, consequently little complaining is heard. Pig iron makers are shipping regularly the usual amount. Contractors, builders, carpenters, plumbers, and ordinary laborers are doing well the amount of building going on, street improvements, &c., affording employment and work for a great many hands. The coal trade is about as usual—the output continuing nearly the same all the time. To make a long story short, business, generally speaking, cannot be said to be very brisk, but moving along in a steady manner. J. A.

## To Lend a Helping Hand.

BIRMINGHAM, ALA., June 25, 1885.

Editor *Manufacturers' Record*:

Your report of the organization of the "Lomb Improvement Co." at this place is correct. However, some of the objects of the company not noted in your report are the encouraging and assisting of emigration to the Southern States; also, to secure and assist the removal of manufacturing establishments to the Southern States from the North and East. Parties desiring to remove their plant South sometimes find it desirable to secure some assistance from the locality to which they propose to remove, and it is our purpose to secure this assistance, receiving a small commission for our services. Our capital stock at present is but \$5,000. We hope, however, by 1886 to increase it to \$100,000. Permit me here to express my appreciation of your worthy journal. It is doing a great work, and is the most reliable record of Southern industries I have been able to secure. G. W. C. LOMB.

THE mercantile failures for the six months ending July 1 are reported by R. G. Dun & Co., of the Mercantile Agency, as 6,004 in number, as against 5,510 for the first six months of 1884, an increase of 494 failures. In liabilities, however, there is a marked diminution, the amount being for the first half of 1885 \$74,000,000, as against \$124,000,000 in the first six months of 1884. In the circular announcing these statistics, the fact is dwelt upon that an increase in failures of less than 500 among the number of traders reported by this agency, now over a million, is not surprising, while their diminishing importance, as shown by the low aggregate and average of the liabilities, is commented upon as indicating a more favorable condition of things than existed at this time last year.

THE disbursements at New York on July 1st, on account of dividends on railroad, bank and other stocks and bonds, amounted to about \$60,000,000, while at Boston, Philadelphia, Baltimore and elsewhere a good many more millions were paid out. These heavy payments ought to make money a little easier and cause an improvement in trade matters.

A LETTER published in this issue of the *MANUFACTURERS' RECORD*, from the Oval Wood Dish Co., of Tiffin, Ohio, states that they desire to establish a factory at some point in the South where the proper kind of timber can be had.

MR. EUGENE MOREHEAD, banker, of Durham, N. C., writes us under date of June 30:

"A trip last week from Goldsboro to Morehead City showed the best crops in that section of North Carolina that they have had for years, and so I was informed."

THE treasurer of Coosa Coal & Coke Company, of Broken Arrow, Ala., writes us that "as a matter of information to you, I beg to say that we have now sixty coke ovens in blast, and are opening a new slope for getting out coal whose capacity will be 500 tons of coal per day."

## Business Chances.

For the purpose of making the *MANUFACTURERS' RECORD* a still more valuable medium of communication between its readers North and South, we will publish, **FREE OF CHARGE**, short advertisements, not exceeding 40 words, from those in the South who have mills, factories, manufacturing sites or water-power for sale, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the *Baltimore Manufacturers' Record*.

**NEWSPAPER FOR SALE.**—A weekly newspaper with complete outfit, as good as new, in one of the most prosperous towns in the South. For particulars address Newspaper, care *MANUFACTURERS' RECORD*.

**WANTED.**—A man who thoroughly understands making sash, doors, blinds, window and door frames, and all work usually done in a carpenter's machine shop. None but a first-class workman, well skilled in the use of machinery, need apply. Address, with reference, B. T. Willard & Son, Maryville, Tenn.

**WANTED.**—A party with \$1,200 or \$1,500 to take an interest in and become resident manager of a lumber business in North Carolina. Company incorporated. Salary paid to the right party. Address E. K., Leechville, N. C.

**WANTED.**—Another member for a company that intends starting a lucrative business in Washington county, Tennessee. For particulars address Jno. Wightman, Williamsport, Pa.

**WANTED** by a machinist with an established business, a partner with \$3,000 to \$5,000 capital, to start a machine shop and to handle machinery. One of the best locations in the United States. Ample business already promised; room for almost unlimited development. Location, a vigorous and progressive Southern town; perfectly healthful. Investigations solicited. Address Machinist, care *MANUFACTURERS' RECORD*.

**FOR SALE.**—A Stearns saw mill complete with latest improvements, in perfect order; capacity 80 M feet timber a day; 80 horse-power engine; 5 cylinder boiler, edger, saw sharpener, swage, &c.; or rented as it stands with buildings. Mill site and facilities are unsurpassed in the South. Address R. G. Chisolm, Charleston, S. C.

**WANTED.**—Situation as engineer to go South; have had 28 years' experience; can give best of Cincinnati reference; am not afraid of work. Address J. Wasmser, care M. Fuller, 376 Clifton avenue, Cincinnati, Ohio.

**TOBACCO MANUFACTORY.**—A party with some capital and a knowledge of the business of manufacturing tobacco can find at Morristown, Tennessee, parties to join him in erecting a tobacco factory. Tobacco growing is a new and increasing industry here, and there are no factories. Address W. H. Coffman, Morristown, Tenn.

**A YOUNG MAN** of ability, at present employed in one of the large cotton mills in the South, would like to take the management of a mill for a share of the profits. Best of reference as to ability and character. Address A. B., care *MANUFACTURERS' RECORD*.

**WANTED.**—Three to four thousand spindles. Spinning machinery to be put in as stock in weaving mill, now running on plaids. Brick mill; ample power; labor abundant; railroad within thirty feet; in a growing Southern city. For particulars address Plaid Mill, care *BALTIMORE MANUFACTURERS' RECORD*.

**IRON.**—A party who owns in East Tennessee, close to a trunk line of railroad, some of the most extensive iron ore properties in the United States, wants to organize a company with capital sufficient to manufacture them. Address W. N. Coffman, Morristown, Tenn.

**FOR SALE CHEAP.**—A fine mill-site in South Carolina. Location unsurpassed; stream never failing. The fall of water exceeds fifteen feet. 800 horse-power at lowest calculation. Good railway facilities; fuel near at hand and very cheap. In a fine cotton country. Address C. H. Wells, Greenville, S. C.

**TALC.**—A gentleman who has a fine deposit of talc on his farm in South Carolina, near railroad, would like to sell mineral rights in the land cheap. Gold is found in small quantities, and grindstones in abundance. Address Box 160, Greenville, S. C.

**BARYTA.**—We want to purchase baryta property and request information as to where it can be had; would be glad to have particulars of any property of this character that is for sale. Address S. & Co., care *MANUFACTURERS' RECORD*, Baltimore.

**A PARTY** with capital desires information concerning a good location for a 10-ton ice factory or ice factory and oil mill combined; can build at once. Address Roberts, Room 4, 83 Cedar st., New York.

**THE OWNERS** of a cotton mill in the South want an experienced man to take an interest in the mill, and take charge of same as manager. The officers and other stockholders have had no experience in running cotton factories, and besides, their time is so fully taken up with other business that they can not give personal attention to management of the finances or to the sale of the product. Machinery all new, and of the latest improved patterns. The mill is located in a flourishing and rapidly-growing city, with 6 railroads, and river navigable all the year. Coal is laid at the furnace door for \$1.70 per ton. It is desired that the manager shall have some interest in the mill, and no proposition will be entertained unless the party can put in at least \$10,000. Address A. C. M., care *MANUFACTURERS' RECORD*.

**WANTED.**—By a married man, a situation as overseer or superintendent of a fine mill in the South; has had many years' experience in the manufacture of hard, soft and medium twines, warp, yarns, wick, &c. Can furnish best of reference as to ability, character, &c.; or would like to correspond with a party with view of introducing an improved spindle for the manufacture of the same. Address J. E. R., care of *MANUFACTURERS' RECORD*, Baltimore, Md.

**WANTED.**—A party with \$3,000 to join me in the development of 595 acres of land in Virginia, on which there are good indications of lead, canal coal and silver; also coal oil. Lease for 99 years. Address A. S. Hanger, Lexington, Va.

**A SCOTCHMAN** of twenty years' experience as designer and manufacturer of the best classes of cotton and woolen fabrics, is open for engagement, or partnership with a party of means to manufacture these goods; thoroughly up in all details. Address W. M., care *MANUFACTURERS' RECORD*.

**TURNER WITH LATHE WANTED.**—Will furnish Hickory, Dogwood, Persimmon and Walnut waste, suitable for Handles, etc., with power, house, and garden plot for part of product. Address M. F. J., care *MANUFACTURERS' RECORD*.

**WANTED—TIMBER.**—A purchaser for the finest tract of timber land in Tennessee, near railroad—poplar, ash, hickory, red cedar, white oak and walnut. E. H. Lewis, Nashville, Tenn.

**FOR SALE.**—83 acres of land in half mile of the growing town of Warrior, Ala. About 40 acres cleared; 2 good springs; coal under 73 acres. Great bargain. For further particulars, call on or address S. C. Davidson, Warrior, Ala.

**WANTED.**—A partner to take half interest in a two press cotton-seed oil mill and cotton mill, or will sell out. Can add other machinery. Good healthy locality. Address W. E. Yancey, Talledega, Ala.

**WANTED.**—A partner in a steam saw mill; well timbered with best yellow pine. This mill is located on the Memphis & Charleston Railroad, one hundred and nine miles from Memphis, Tenn. Address G. N. Harvey, Burnsville, Miss.

**HAVING** the requisite practical and fair business experience, I would like to take charge of a cotton mill. Address A. E., care of *MANUFACTURERS' RECORD*.

**WANTED.**—One set wool cards and jack with bobbins and picker. H. G. Hall, Fayetteville, N. C.

**WANTED.**—Situation as superintendent of cotton factory; now employed in the South; satisfactory reasons for leaving present place; good references. Address N. C., care *MANUFACTURERS' RECORD*.

**WANTED.**—A party to join me with some capital in a well established cotton gin factory in the South. The gins have no superior. Margins good. Water power used. Timber cheap and abundant. Address "Gin Factory," care of *MANUFACTURERS' RECORD*, Baltimore.

## A Splendid Chance for Investment.

# FOR SALE. Colonel's Island,

In the bay fronting Brunswick, Ga., 2½ miles from that city. The island is 6 miles long and from 3 to 4 wide, at widest points. Contains about 7,000 acres, 4,500 acres being marsh land, and the remaining 2,500 acres good productive hummock and high pine land, adjoining exhaustless beds of excellent fertilizing muck and marl, easily accessible in the marshy part of the island. On the high part of the island is a large body of live oak timber, valuable for ship building and other purposes. The present improvements consist of a few comfortable houses, some wells, shade groves, &c.

Being surrounded by sea water, the climate is as mild as that of South Florida. Among the productions are cotton, corn, peas, sweet and Irish potatoes, oats, vines, fruits, including finest varieties of oranges, good lemons, &c.

The island fronts on Turtle river, and has 1,950 feet of the deepest water front in Brunswick harbor, which is in many respects the finest on the South Atlantic coast.

Ships and steamers connecting with the East Tennessee, Virginia & Georgia Railroad go by this front and a mile beyond, to reach their wharves and depot. This water front will, in the near future, be made a landing place for ocean freights, which will be conveyed across the island by a railroad which will bridge the salt creek separating the head of the island from the mainland, and the present railroad lines.

When this island railroad is built, it will connect with a line of steamers which will run to Fernandina, only 20 miles distant, by a clear, deep, inland passage.

The United States Government purchased on Blythe Island, less than a mile distant, a site for a navy yard, paying for the same about \$300,000.

The fine live-oak timber on Colonel's Island will be needed for ship-building, when the navy yard is opened.

The climate and health of the island are unsurpassed.

The waters surrounding it are stocked with first-class oysters, and afford the finest fishing on the coast of the Southern States.

Deer, quail, wild turkeys and ducks, and all the sea birds that frequent the coast, abound on the island and adjoining mainland.

The island is a perfect, enclosed stock-range, with an abundant, constant supply of fine natural grass.

It could be made a very choice resort and place of residence for the entire year, the climate being mild in winter, and cooled by ocean breezes in summer.

It is a splendid site for a *Factory and Town*. An offer of \$50,000 has been refused for the property since the war; but it must now be sold to finish the settling up of an estate.

Title perfect.  
Price \$25,000; \$10,000 cash; balance in one and two years, with interest at the rate of 8 per cent., or all cash. Address E. H. B., care *MANUFACTURERS' RECORD*.







**IRON ROOFING**  
SIDING, CEILING,  
ARCHES AND LATH.  
CINCINNATI  
CORRUGATING CO.  
CINCINNATI, O.  
SEND FOR ILLUSTRATED CATALOGUE.

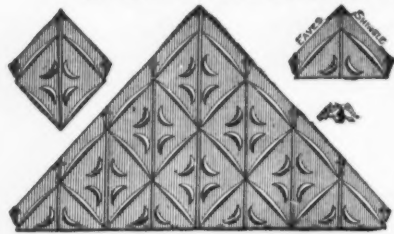
CORRUGATED

CRIMPED

**T. C. SNYDER & CO.**  
—MANUFACTURERS OF—  
**IRON ROOFING, SIDING AND CEILING,**  
(The H. W. Smith Patent is the Best in use.) AND JOBBERS IN  
PLAIN, CORRUGATED, CRIMPED, BEADED.  
  
IRON ORE, PAINT, CEMENT,  
And Roofers' and Builders' Papers.

—PATENT CALAMINED IRON IN QUANTITIES—A New Thing.—  
Coating is indestructible, will not scale, is soft, solders more strongly and is superior to Galvanized Iron or Tin for all purposes. Protected both in body and surface. Circulars, Price-List and Sample mailed at request.  
—CANTON, OHIO.—

## Metallic Shingles FOR ROOFING OR SIDING.



UNSURPASSED BY ANY ROOFING  
NOW ON THE MARKET.

**Guaranteed Storm-Proof  
in Every Climate.**

Send for circular and prices of our Celebrated  
Dove Tail Tin and Copper Shingles and  
Iron-Clad Roofing Plates.

**Anglo-American Roofing Co., 22 Cliff St., N. Y.**

Works: Scottdale, Pa. Brooklyn, N. Y. Wolverhampton, England.  
JNO. G. HETZEL & SON, BALTIMORE AGENTS.

## METALLIC SHINGLES. IRON ROOFING AND SIDING

—Crimped and Corrugated—



**W. G. HYNDMAN & Co.**

52 & 54 East Second Street,  
CINCINNATI, O.

—FOR—  
DWELLINGS, STORES,  
SAW MILLS, BARNs,  
FACTORIES, SHEDS,  
Etc., Etc., Etc.

Send for Circulars and Prices.  
Mention this paper.

## CHATTANOOGA PAINT CO.

Chattanooga, TENN. S. B. LOWE, MANAGER.

MANUFACTURERS OF THE

**Best Iron Paint in the Market,**

Both Dry and Ready-Mixed, for the Protection of Iron, Tin or Shingle Roofs, Out-buildings, Railroad Cars, Iron or Wooden Bridges, Gas Receivers, and machinery of all kinds, Iron Stacks and all property exposed to the weather. Our dry is furnished in barrel, ton or car-load lots, and our ready-mixed in one and two-gallon cans, half-barrels and barrels. Merchants buying 50 gallons or over in cans can have their special label put on if desired. WE GUARANTEE OUR DRY AND READY-MIXED PAINT EQUAL TO ANY IN THE MARKET.  
For prices, address

CHATTANOOGA PAINT CO., Chattanooga, Tenn.

ONLY ASPHALT PAINT AND VARNISH WORKS IN THE UNITED STATES.

The **Louisville Asphalt Varnish Co.** Warrants its

### ASPHALT IRON PAINT

equal to any "metallic," because made from the best Iron Oxide and Linseed Oil; and superior to them and all rivals, because it alone adds the *Varnish Gum "ASPHALTUM,"* which not only hardens the surface and preserves the elasticity of the paint, but resists the action of all gases, acids and alkalis—the rusting elements. Approved in theory and in practice as THE BEST for all exposed surfaces, on Cotton Seed Oil Mills, Factories, Compresses, Warehouses, Hulls and Decks of Ships, Railroad Depots, Cars, Bridges, Trestles, etc. Colors: Red, Brown and Black. Ready for the brush. No sample cards, but the paint itself, on new tin, sent to any property owner on application. Our

### STACK BLACK

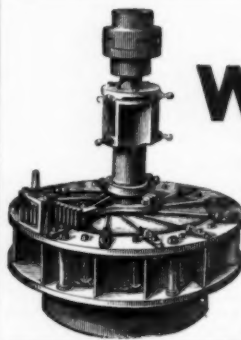
will prolong the life of your iron chimneys, large or small. It bakes on and will not scale off like coal-tar products.

### ASPHALTUM BLACK VARNISHES.

A full line for Manufacturers, the Trade and Family use. Address, (mentioning this paper.)

**LOUISVILLE ASPHALT VARNISH CO.,**

19 and 20 Courier Journal Building, - - - LOUISVILLE, KY.



## JAMES LEFFEL'S IMPROVED WATER WHEEL

MADE BY JAMES LEFFEL & CO.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address

**JAMES LEFFEL & CO.,**

SPRINGFIELD, OHIO.

AND 110 LIBERTY STREET, NEW YORK CITY.

## ANNISTON MACHINERY COMPANY,

—MANUFACTURERS' AGENTS FOR—

**Engines, Boilers, Machinery and Supplies  
OF ALL KINDS,**

—KORTING'S DOUBLE TUBE INJECTOR,—

P. O. Box 37.

ANNISTON, ALA.

CORRESPONDENCE SOLICITED FROM MANUFACTURERS WHO DESIRE AN AGENCY.



## THE FRED. J. MEYERS MFG. CO.

COVINGTON, KY., Manufacturers of

**WIRE GOODS OF ALL KINDS,**

Wrought-iron Fencing, Cresting and Hardware Specialties.

Send for Illustrated Catalogue and Price List.

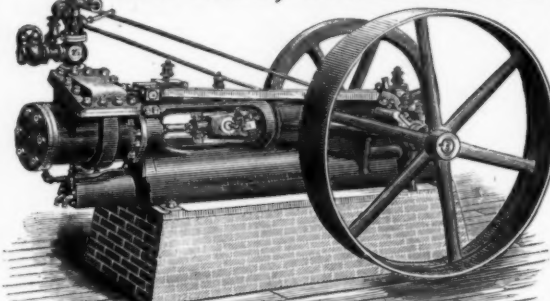


## SMITH, MYERS & SCHNIER,

402 to 412 W. Front Street,  
CINCINNATI, O.

MANUFACTURERS OF  
**PATENT TERRAPIN  
CENTRE CRANK  
ENGINES,**

from 15 to 200 Horse Power.  
**BOILERS AND  
SAW MILL MACHINERY.**  
Send for illustrated Catalogue  
and prices.



"Nothing is denied to well directed Diligence."

## MYERS SANITARY DEPOT.

Office and Salesroom—92 Beekman Street,  
Factories—126 Beekman and 212 Front Street,  
Warehouses—246 Water Street,

—NEW YORK.

SPECIALTIES IN PLUMBERS' SUPPLIES.



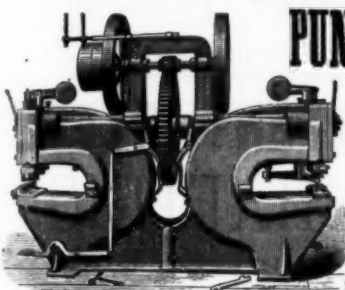


**HENLEY'S CHALLENGE ROLLER SKATE.**THE LATEST AND BEST **SKATES.** IN THE  
And Most Complete Scientific MARKET.**HENLEY'S IMPROVED CHALLENGE  
RINK AND CLUB SKATES**  
LIBERAL TERMS TO THE TRADE.

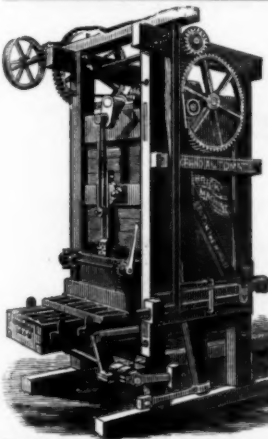
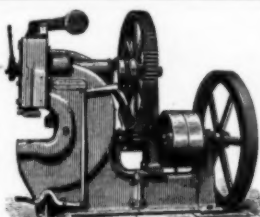
For prices, circulars and further particulars, address:

**M. C. HENLEY, Patentee and Manufacturer,  
RICHMOND, IND.**Send four-cent stamp for new forty-page Illustrated Catalogue.  
MENTION MANUFACTURERS' RECORD.**THE RICHMOND GLOBE ROLLER SKATE,**

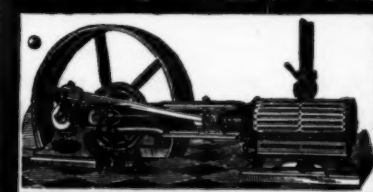
The Easiest Running, Most Durable, and Most Practical Skate in the Market.

Rink men and jobbers will find the  
"GLOBE RINK" skate to be superior  
to all others, because:It has no springs, rivets or pins to break,  
get loose or wear out. It will not crush the  
rubber cushion, as their new connecting  
plate prevents crushing. The wearing of the  
bearings being automatic, the truck  
frame will not become loose or rickety  
from long usage. The tension is easily  
regulated by means of the draw-bolt, to  
suit the requirements of any skater. The  
truck frame can be instantly detached  
without removing the draw-bolt. It is  
light, strong, durable, and skaters pronounce  
it the best skate made.We especially call the attention of the  
skaters of America to our New Half-  
Clamp Corrugated Steel Bottom  
Skates, in which we pride ourselves in  
having the Lightest, Strongest and  
Handsomest Skates in the World.  
For prices and catalogues address**MITCHELL & VANNEMAN,  
RICHMOND, IND.****THE LONG & ALLSTATTER CO., Hamilton, Ohio.****PUNCHES, SHEARS & HAMMERS,**DOUBLE.  
SINGLE.  
HORIZONTAL.  
TWIN BOILER.  
SPACING GATE.  
MULTIPLE ANGLE.  
BAR, &C.  
BELT AND STEAM  
DRIVEN.

Send for Catalogue.

**The GRAND AUTOMATIC  
Brick Machine.**

Well Tempered Brick are the Most Reliable.

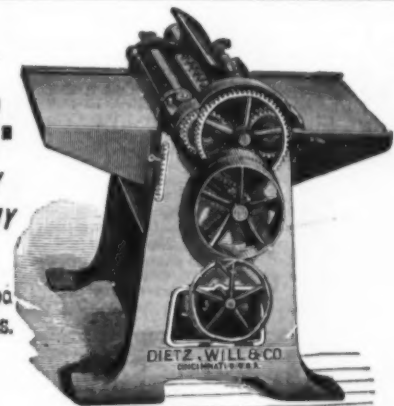
The Grand Automatic makes the best tempered  
Brick in the world. It is the only Machine that  
makes better brick in every respect than can be  
made by hand. Send for catalogue to**JONATHAN CREAGER,  
131 E. Front St., Cincinnati, O.****THE CUMMER ENGINE CO.**CLEVELAND OHIO  
SEND FOR 100 PAGE ILLUSTRATED CATALOGUE.Awarded highest premiums at  
Cincinnati and Louisville Expositions  
of 1883, for "Best Automatic  
Engine." We will furnish  
anyone copies of the ORIGINAL  
ENTRIES of several engine builders  
who claim they were not  
competing with us. They all entered  
in the same class with us,  
and now by deceptive Circulars  
(one headed "Fact versus False-  
hood.") attempt to mislead.  
No premiums were offered  
for Condensing Engines.**AUTOMATIC****W. J. CHAPMAN,** Direct Shipper Special attention given to orders from found-  
ers and machinists.  
Office, York and  
Connellsville Coke. William St.**GOVERNORS** { For } Cohoes Iron Foundry & Mch. Co.  
Wheels } Send for Catalogue. Cohoes, N. Y.**HOWELL PATENT WHEEL.**I hereby call your attention to my new SUSPENSION WHEEL. It is the lightest in the  
market, and will sustain more in proportion to its weight than any other. It is strictly  
SUSPENSION. The weight being sustained by a pull inward from the tire, the tension is the  
same on each and every spoke, or all alike. The strain is put upon all the spokes alike, and not  
upon one only at a time, as in other wheels. These wheels are made with either hollow or solid  
shaft.**G. W. HOWELL, Manufacturer, COVINGTON, KY.****Standard Smelting and Refining Works,  
METALS.**HABBIT METALS.  
FINNERS' SOLDER  
PLUMBERS' SOLDER.  
COPPERSMITHS' SOLDER.  
ELECTROTYPE METAL.  
STEREOTYPE METAL.  
INGOT BRASS.INGOT COPPER.  
PIG TIN.  
ANTIMONY.  
PIG LEAD.  
SPELTER.  
BAR LEAD.  
BAR TIN.

162, 164, and 166 Water Street,

CINCINNATI, O.

Genuine Babbit Electrotpe and Stereotype Metals a Specialty. Daily  
quotatio is furnished upon application. Prices lower than any Eastern or Western market.**H. J. McKEOWN,****MACHINIST AND MILLWRIGHT.**Shafting, Hangers and Pulleys, Engineers' Supplies, Packing, Sheet Gum, Pipe, Fittings, and Brass  
Goods. Special attention given to fitting out shoe and other factories, and to the repair of Gas Engines.  
Has now on hand five Wais' Patent Power Combined Splitting and Squaring Shears, which are new, and  
may be had on reasonable terms. Also dealer in New and Second Hand Machinery of all kinds. Write for  
Catalogues.

196 E. FRONT STREET, CINCINNATI, OHIO.

**DIETZ, WILL & CO.  
Wood-Working Machinery.**BAND SAWS, UNIVERSAL SAW  
BENCH, SAW MANDRELS, PONY  
PLANERS, MATCHERS.Shafting, Palleys and Hangers, Wood  
Turning and Pattern Makers' Lathes.186 to 191 PEARL STREET,  
Cincinnati, O.**MONON ROUTE.**

Louisville, New Albany &amp; Chicago Railway Company.

The Pullman Car Line between CINCINNATI, INDIANAPOLIS, CHICAGO

AND THE NORTHWEST.

**2 FAST EXPRESS TRAINS LEAVE CINCINNATI**  
From Station, cor. 5th and Hoody Sts. (Central Time.)**7.30 A. M. CHICAGO DAY EXPRESS.** (Except Sunday)  
For Indianapolis, Monon, Frankfort, Michigan City, Chicago, Milwaukee, St. Paul,  
Minneapolis and all points in the Northwest.**6.45 P. M. CHICAGO NIGHT EXPRESS** (Daily)  
For Indianapolis, Chicago, Milwaukee, St. Paul, Minneapolis, Omaha, Council  
Bluffs, Davenport, Rock Island and all points in the Northwest.PULLMAN SLEEPING CARS AND DAY COACHES THROUGH TO CHICAGO. BAGGAGE  
CHECKED TO ALL POINTS IN NORTHWEST.**JOHN H. GARRISON,** District Pass. Agent, 129 Vine St., Burnet House Block, CINCINNATI.  
**JOHN B. CARSON,** General Manager, CHICAGO. **WM. S. BALDWIN,** General Passenger Agent, CHICAGO.**C. H. & D. R. R.** Cincinnati, Hamilton and  
Dayton Railroad.

From and to CINCINNATI.

TOLEDO, SAGINAW, DETROIT, TORONTO, AND ALL POINTS  
NIAGARA FALLS, IN MICHIGAN AND CANADA.CONNERSVILLE, RUSHVILLE, INDIANAPOLIS, PEORIA, AND ALL POINTS  
BLOOMINGTON, WEST OR NORTHWEST.RICHMOND, LOGANSPOET, CHICAGO, MONON, AND ALL POINTS  
DELPHI, IN THE NORTHWEST.FORT WAYNE, KALAMAZOO, GRAND RAPIDS, MACKINAW, AND ALL  
PETOSKEY, POINTS IN MICHIGAN.

PULLMAN PALACE SLEEPERS AND PARLOR CARS.

For information apply at any Railroad Office in the United States or Canada. In Cincinnati, Ohio, at  
Offices: N. W. Corner Fifth and Vine Streets, or Depot, Fifth and Hoody Streets, or address**J. F. MCCARTHY,** Agents at  
5th and Vine Sts.,  
**JNO. R. MCCORD,** Cincinnati, O.**SAM'L STEVENSON,**  
General Ticket Agent.



If you contemplate the erection, extension, or alteration of any Mill, Factory, or Mechanical Works of any sort, requiring *Steam, Water, or Gas* to be introduced, it will well repay you to send for our Catalogue and Price-List. It will be found of service to **Pipe-Fitters, Engineers, Superintendents of Railroads, Mills, Factories, Water, Ice, Oil and Gas Companies,** and all who are interested in the use of *Steam, Water, and Gas*, and is an exhaustive book of reference for the selection of such goods.

PANCOAST & MAULE, 243 and 245 South Third Street, Philadelphia.

## Steam

Wrought-Iron Pipes, Cast-Iron Pipes, Boiler Tubes, Spiral Riveted Wrought-Iron Pipes, Cast-Iron Fittings, Wrought-Iron Fittings, Malleable Iron Fittings, Bent Coils of Wrought-Iron Pipe for Heating, Boiling, &c., Steam Radiators, Brass and Iron Cocks and Valves, Radiator Valves, Openway Valves, Boiler Trimmings, Gauge-Cocks, Steam Gauges, Water Gauges, Steam Whistles, Lubricators, Oil and Tallow Cups, Revolution Counters, Gongs, Steam Boiler Tube Cleaners, Steam Boiling Kettles, Feed-Water Heaters, Pressure Regulators, Damper Regulators, Steam Traps, Glue Heaters, Injectors, Inspirators, Steam Pumps, Syphon Pumps, Engine Governors, &c.

Contractors for  
Steam-Heating Apparatus  
of all kinds.

## Water

Wrought-Iron Pipes—Plain and Galvanized, Heavy Cast-Iron Pipes, Fittings of all kinds, Cast-Iron Soil Pipe, Green-House Boilers, Pipe and Fittings, Pumps of every description—Steam- or Hand-Power, Fire Hydrants and Valves, Street Main Valves, Foot Valves, Hose Valves, Pipes, Couplings, &c. Bath Boilers, Brass Water-Cocks and Valves in Detail.

## Gas

Wrought- and Cast-Iron Pipes, Cast, Wrought, and Malleable Iron Fittings, Brass Fittings, Service and Meter Cocks, Gas Burners, Solder Furnaces, Gas Valves, Street Lamp-Posts and Lanterns, Gas-Fitters' Tools and Sundries.

## Tools

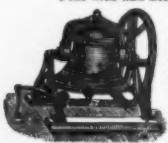
Hand and Power Pipe-Cutting and Threading Machines, Pipe Stocks and Dies, Pipe Taps, Drills and Reamers, Machinists' Die-Plates, Machinists' Taps, Solid Bolt Dies, Pipe-Tongs, Adjustable Tongs, Pipe-Wrenches, Monkey-Wrenches, Gas-Fitters' Pliers, Augers, Pipe-Cutters, Pipe Vises, Chisels, Ratchets, Gas-Fitters' Pumps, Boiler Tube Brushes and Cleaners, Boiler Tube Expanders, Hydraulic Punches and Jacks, Patent Hand Hoisting-Machines, Oilers, Hammers, &c.

Correspondence solicited from parties requiring any Goods in the above lines.

MENTION THIS PAPER WHEN YOU ADDRESS US.

## McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order.



Manufacture those celebrated **Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c.** Prices and catalogues sent free. Address **H. McSHANE & CO.** Baltimore, Md.

## J. W. LOANE,

13 N. Gay Street, BALTIMORE.

Manufactures and sells at lowest rates

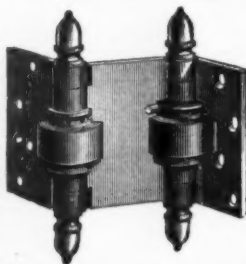
## TENTS, AWNINGS, FLAGS

Canvas Horse Covers, Plain and Oiled, Yellow and Black.

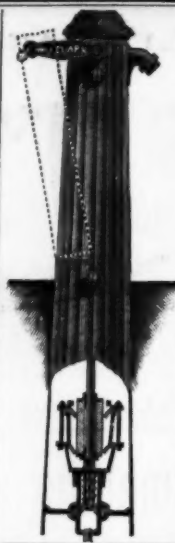
GIVE HIM A CALL. ORDERS OR ENQUIRIES BY MAIL RECEIVE PROMPT ATTENTION.

## UNION SPRING HINGES

are Simple, Easily Set. Cannot be put on wrong. They work either way, right or left. All sizes. Single or double acting. For Wire Screens and other uses. Price List, M. W. ROBINSON, Sole Agent, 9 Chambers St., New York.



**BERNHARD DIETZ**, Manufacturer of **Printers' Rollers**, and Roller Composition. Factory, cor. Light and Mercer streets, Baltimore. Prices: Composition, (bulk) 30 cents per lb.; for Casting, also, 30 cents per lb. Orders by Mail promptly attended to.



## W. J. CLARK & BRO.

Manufacturers of

## Hydrants.

These Hydrants are made of the best material, and are guaranteed to be entirely non-wasting and non-freezing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

38 N. Holliday Street,  
BALTIMORE, MD.

1837. NOVELTY WORKS. 1883.

## JAMES MURRAY & SON, Machinists and Millwrights

Engines and Boilers, Mills of all kinds, Marine Railways, &c. Improved Clay Tempering Machinery, Steam or Horse Power. Phosphate Machinery, Crushers, Rollers, Mixers, &c., &c.

40, 42 & 44 York Street.

NEAR LIGHT, BALTIMORE.

Repairing of all kinds promptly done.

Established 1793.



H. BALDERSTON & SON,

MANUFACTURERS OF

## WIRE GRATING FOR WINDOWS

Doors and Office Railing, Wire Screens for Banks, Churches and Store-Fronts. Woven Wire, Wire Tree-Guards, Sieves, Screens for Coal, &c., &c.

66 S. Calvert Street, Baltimore.

## WIRE RAILING

and Ornamental Wire Works.

DUFUR & CO. 36 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Redsteads, Chairs, &c.



A&W INK USED ON THIS PUBLICATION

W. L. MERSFELDER. MORGAN L. SMITH.

## CINCINNATI PATTERN WORKS.

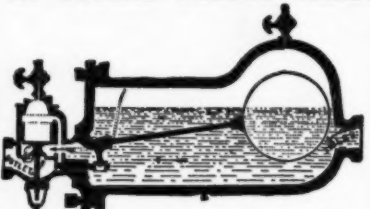
Stove Patterns a Specialty.

Artistic, Architectural and Machine Patterns Of Every Description Made on Short Notice.

N. W. COR. FRONT & PIKE STS.

Jobbing Promptly Done. CINCINNATI, O.

## The CURTIS STEAM TRAP.



Has main valve outside. Air valve inside.

MANUFACTURED BY

Curtis Regulator Co., 158 Beverly St., Boston.

—GENERAL AGENTS:—

109 Liberty St., New York; No. 19 N. 7th St., Philadelphia; 86 and 88 Market St., Chicago; No. 49 Holliday St., Baltimore; No. 707 Market St., St. Louis; No. 745 Craig, Montreal.

NELSON CURTIS, Agent.

(Awarded First-Class Medal at New Orleans.)

## STEPHENS' VISES.



With STEEL FACED or SOLID STEEL SLIDING JAW, and ADJUSTABLE ATTACHMENTS. Superior in Make, Grip, Strength and Durability, and more economical in Time and Labor than any other Vise. Jewelers, Machinists in general, and Car and Locomotive Builders in particular, will find them especially adapted to their need. Also STEPHENS' PATENT PLANNER CHUCKS. Sold by hardware, machinery and tool dealers. Send for descriptive circular and price-list.

MELVIN STEPHENS, Proprietor,  
Office, 41 Dey St., NEW YORK.

## TOOLS. IMPROVED POWER OR HAND PLANER.

Planes 27 in. long, 12 in. wide, 8 in. high.

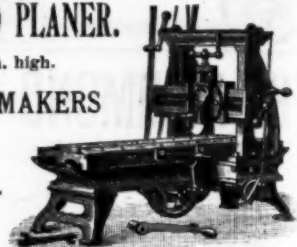
MACHINISTS, ENGINEERS, MODEL MAKERS

and all classes of Mechanics can find TOOLS to suit them at

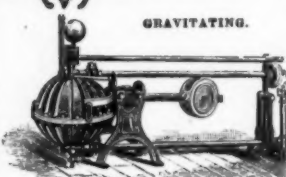
134 to 188 Washington St.

BOSTON, MASS.

A. J. WILKINSON & CO. Catalogues free.



## THE ALBANY STEAM TRAP COMPANY'S SPECIAL BUCKET And GRAVITATING Traps.



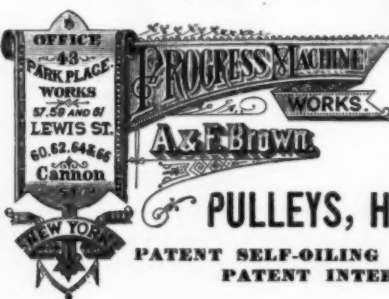
GRAVITATING. Automatically drain the water of condensation from HEATING COILS, and returns it to the boiler, whether coils are above or below the water level in boiler, doing away with pumps and other mechanical devices for such purposes.



Also, "Blessing's Patent Renewable Seat Valves."

ALBANY STEAM TRAP COMPANY, Albany, N. Y.

Office and Works, 78 and 80 Church Street.



## PATENT STEEL SHAFTING

Of Superior Quality.

PULLEYS, HANGERS, COUPLINGS, &c.

PATENT SELF-OILING HANGERS,  
PATENT INTERNAL CLAMP COUPLINGS,  
PATENT FRICTION CLUTCHES.

A. & F. BROWN, 43 Park Place, N. Y.



SEND FOR PRICES. VALLEY MACHINE CO. EASTHAMPTON, MASS.

## DO YOU USE STOVE REPAIRS?

Having a Stock of Repairs for over 12,000 different Stoves, can we not make it to your advantage to trade with us?

PROMPT SHIPMENTS AND SATISFACTION GUARANTEED.

The W. C. Metzner Stove Repair Co.

125 & 127 W. Randolph Street, - - CHICAGO.

CATALOGUE SENT FREE.

## PATENT CLASP PULLEY

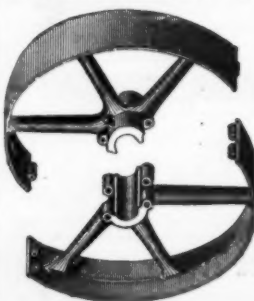
Made in Halves. Same Price as Whole Pulleys.

Shafting, Hangers.

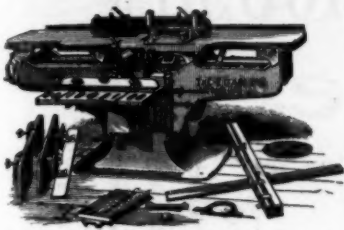
Castings of Every Description Made. Stationary, Distillery, Mill and Boiler Work.

JNO. N. MARQUETTE,

No. 6 W. Falls Avenue, Baltimore, Md.





**Wood-Working \* Machinery**

Of the Latest and most Improved Designs for  
Planing Mills, Furniture and Chair Factories  
and Agricultural Works, Carriage and  
Buggy Shops, and

**GENERAL WOOD WORKERS**

MANUFACTURED BY

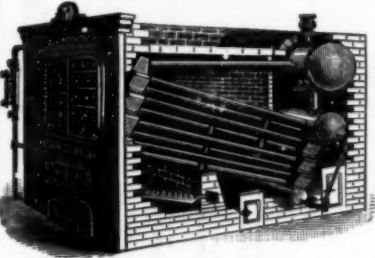
**THE EGAN CO.**

228 to 248 West Front St., Cincinnati, O., U. S. A.

[Improved Universal Wood Worker.] Thos. P. Egan, Pres. Ed. Ruthven, Sec. F. Danner, Supt.

**ZELL'S SAFETY BOILER.**

Economy  
Unexcelled.  
Durability  
Guaranteed.  
Send for Circulars.



POSITIVELY  
WILL NOT  
EXPLODE.

—MANUFACTURED BY—

**Safety Steam Generator Com'py,**

68 Warren Street, New York.

**John G. Mengel & Co.**

—LEADING—

**Type-Founders and Electrotypers**

Modern Book, Newspaper, and Job Type cast in a superior  
Copper-Mixed Metal, and on the new

**JUSTIFIABLE SYSTEM OF BODIES.**

**LARGEST PRINTERS' SUPPLY HOUSE in the SOUTH**

Dealers in and Agents for all the leading Cylinder  
and Job Presses, Paper-Cutters, &c., &c.

Agents for the Celebrated German Printing Inks.

**SECOND-HAND MACHINERY Bought, Sold, and Exchanged.**

Complete Newspaper and Job Offices Furnished at the Lowest  
Prices and on good terms.

Send for Specimen Sheets, Estimates, &c., to

**31 German Street, Baltimore.**

**The True Idea of Assurance.**

**Women's Mutual Insurance and ACCIDENT COMPANY.**



**PRESIDENT, ELIZABETH B. PHELPS.**  
**VICE-PRESIDENT, MARGARET HOLCOMBE.**

**FANNY M. GERARD, Treas.**  
**CORNELIA KAMPING, Actuary.**

**ALFRED K. HILLS, M. D., 465 Fifth Avenue.**  
**MARY PUTNAM JACOBI, M. D., 110 W. 34th Street.**

**JOHN A. KAMPING, Attorney and Counsel, 128 Broadway, New York.**

The Company is incorporated under the Laws of New York, approved by the Supreme Court and Superintendent  
of the Insurance Department, and subject to the latter's supervision.

**ITS OBJECT** is surely and cheaply to provide an indemnity for loss by  
death and accidental disablement.

**ITS PLAN** consists in assessing the members ratably according to age  
in the Life Class, and according to occupation or degree of  
risk in the Accident Class, members being liable for  
losses only occurring in the class to which they belong.

This company, having been organized for the purpose of  
removing the prejudices which created discrimination in  
Life Insurance against women, has adopted the broad principle  
of no discrimination in membership on account of sex.

**ITS MEMBERSHIP** comprises persons between the ages of 18 and 47, of approved  
physical condition. The Life Class is separate and  
distinct from the Accident Class, members being liable for  
losses only occurring in the class to which they belong.

This company, having been organized for the purpose of  
removing the prejudices which created discrimination in  
Life Insurance against women, has adopted the broad principle  
of no discrimination in membership on account of sex.

**ELIZABETH S. ROBERTS, Secretary,**  
283 Fourth Avenue, New York.

This Company requires Agents in every city, town and village, to whom liberal terms will be given. Address as above

**GRAND HOTEL**

BROADWAY and 31st St., NEW YORK.

**EUROPEAN PLAN.**

**HENRY MILFORD SMITH & SON, Proprietors.**

**ADAMS HOUSE,**



**BOSTON.**

**BAY STATE HOUSE,**

WORCESTER, MASS.

**W. L. SHEPARD, Proprietor.**

This House has been thoroughly repaired and renovated, and will be KEPT STRICTLY FIRST  
CLASS IN EVERY RESPECT.

**The Only First-Class Hotel in the City.** Rates, \$3.00 and \$3.50 per day

Devon Inn,  
Devon, Penna.,  
H. J. & G. R. CRUMP.

The Grand Hotel,  
Catskill Mountains,  
EDW'D A. GILLET.

**COLONNADE \* HOTEL.**

Chestnut St. Cor. 15th, one block from New Penna. R. R. Depot,

H. J. & G. R. CRUMP.  
E. A. GILLET.

PHILADELPHIA.

**Favorite Resorts for all Southern Travel.**

**JOHN R. EDWARDS,**  
**Blank Book Manufacturer,**

LITHOGRAPHER, PRINTER AND STATIONER,

167, 169 AND 171 W. LOMBARD ST. COR. SHARP ST.

—BALTIMORE, MD.—

Specialty: Account Books to order for Manufacturing Establishments, Banks  
and Insurance Companies. Estimates Furnished.



# WESTINGHOUSE, CHURCH, KERR & CO.

## Mechanical Engineers.

Design and furnish Everything Pertaining to the

Generation, Transmission and Application of Power.

17 CORTLANDT ST., NEW YORK.

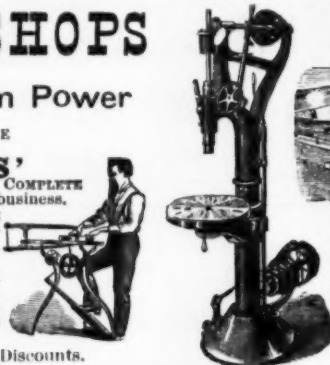
### WORK-SHOPS

Without Steam Power

SHOULD USE

**BARNES'**  
Patent Foot Power Machinery. COMPLETE  
Outfits for actual workshop business.  
With them Builders, Cabinet  
Makers, Metal and Wood Work-  
ers compete with steam power.  
Machines on trial if desired.  
Proof of value, prices, full  
detail, illustr'd catalogue, free.  
**W.F. & JOHN BARNES CO.**  
Rockford, Ill.  
Address No. 221 Ruby St.

Dealers, send for Discounts.



Barnes' Pat. Upright Drills.  
20-inch Swing, with both  
Worm and Lever Feed.



Barnes' Patent Engine Lathe  
15-inch swing, 6-foot or 8-foot  
Bed. These machines are made a  
specialty in our factory, they have  
advantages not found in other ma-  
chines in this line. It will pay  
parties desiring to purchase, or  
know more about this class of ma-  
chines, to send for full description  
and prices.

**W. F. & JOHN BARNES,**  
221 Ruby St., Rockford, Ill.

## STEEL CASTINGS

FROM 1-4 to 15,000 lbs. WEIGHT.

True to pattern, sound, solid, free from blow-holes, and  
of unequalled strength.  
Stronger and more durable than iron forgings in any  
position or for any service whatever.  
40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of  
this steel now running prove this.  
CRANK SHAFTS and GEARING specialties.  
STEEL CASTINGS of every description.

Send for Circulars and Prices to

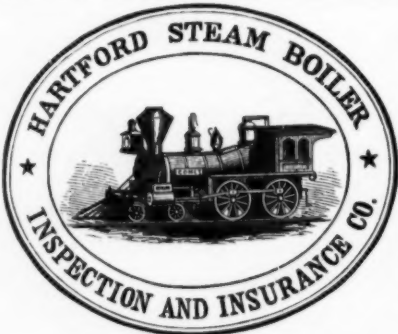
**CHESTER STEEL CASTINGS CO.**

Office, 407 Library Street, Philadelphia.

Works, Chester, Pa.

—ISSUES—  
POLICIES OF INSURANCE

AFTER



A CAREFUL INSPECTION  
OF THE  
BOILERS,

Covering all  
Loss or  
Damage to

Boilers, Buildings and Machinery  
ARISING FROM STEAM BOILER EXPLOSIONS.

The Business of the Company Includes All Kinds of Steam Boilers.

Full information concerning the plan of the Company's operations can be obtained at the  
**COMPANY'S OFFICE, Hartford, Conn.,** or at any agency.

**M. ALLEN, Pres't.**

**W. B. FRANKLIN, Vice-Prest.**

**J. B. PIERCE, Secty.**

—BOARD OF DIRECTORS:—

**L. M. ALLEN, President.**  
**LUCIUS J. HENDON, President** Aetna Fire Insurance Co.  
**F. W. CHENEY, Asst. Treas.** Cheney Bros. Silk Mfg. Co.  
**DANIEL M. BEACH, of Beach & Co.**  
**DANIEL PHILLIPS, of Adams Express Co.**  
**G. M. BARTHOLOMEW, Pres't** American National Bank.  
**H. W. B. JARVIS, Pres't** Colt's Fire Arms Mfg. Co.  
**THOMAS O. ENDEISS, Secretary** Aetna Life Insurance Co.  
**LEVERETT BRAINARD, of Case, Lockwood & Brainard.**

**GEN. WM. B. FRANKLIN, Vice-President** Colt's Patent  
Fire Arms Manufacturing Co.  
**GEO. CROMPTON, Crompton** Loom Works, Worcester.  
**WILLIAM ADAMSON, of Baeder, Adamson & Co., Phila.**  
**HON. THOMAS TALBOT, Ex-Governor** of Massachusetts.  
**NEWTON CASE, of Case, Lockwood & Brainard, Hartford.**  
**NELSON HOLLISTER, of State Bank, Hartford.**  
**CHAS. T. PARRY, of Baldwin** Locomotive Works, Phila.  
**HON. H. C. ROBINSON, Attorney-at-Law, Hartford.**

**LAWFORD & McKIM, Agents for Maryland, 10 S. Holliday St., Baltimore, Md.**

## BRASS!

Roll, Sheet and Platers' Brass,

GERMAN SILVER.

COPPER, BRASS AND GERMAN SILVER WIRE,

BRASS and COPPER TUBING,

BATTERY and PLATERS' SILVER, &c.

PHILIP R. VOGEL, JR.

Manufacturers' Agent,

No. 79 German Street, Baltimore, Md.

# The WESTINGHOUSE Engine.

Chart showing the quarterly increase  
of our business.

Heavy Lines are Horse Powers.

Light Lines, number of Engines.

### SOME FACTS.

Up to May 1st, 1885, TWENTY-ONE PER  
CENT. of our sales have been bona fide REPEAT-  
ED ORDERS (2 to 12) from actual users (not  
agents) and do not include about twenty-five ex-  
changed engines, all of which are counted  
as single sales. About half of the exchanges  
were from defective engines, the balance for  
increased power or automatic cut off, the dif-  
ference being paid in many cases. From 800  
to 1,000 have displaced other engines. On the  
contrary, we know of but three parties, who,  
having bought one Westinghouse Engine,  
have failed to give us their subsequent  
orders. We have learned of but six  
second-hand engines being offered for  
sale, all of which were either from fire  
or failures. Nine engines (our earliest)  
were thrown back on our hands  
altogether. This is our record,  
with about 1,500 en-  
gines running.

SEND FOR ILLUSTRATED  
CIRCULAR AND  
REFERENCE LIST.

1881 1882 1883 1884

**THE Westinghouse Machine Co., Pittsburgh, Pa.**

Sales Department Conducted by

Westinghouse, Church, Kerr & Co., 17 Cortlandt St., New York. Fairbanks, Morse & Co., Chicago, Cin-  
cinnati, Cleveland, Louisville & St. Paul. Fairbanks & Co., St. Louis, Indianapolis & Denver. Parks &  
Lacy, San Francisco and Portland, Oregon. Parke, Lacy & Co., Salt Lake City, Utah, and Butte, Montana.  
D. A. Tompkins & Co., Charlotte, N. C. Keating Implement & Machine Co., Dallas, Texas. Robert  
Middleton, Mobile, Ala. H. Dudley Coleman, 9 Perdido St., New Orleans, La. Inray & Co., Sidney and  
Melbourne, Australia. R. Rogers, 43 Rue Lafitte, Paris. F. E. Averill, Delft, Holland.

THE RUTHENBURG AUTOMATIC  
FIRE EXTINGUISHING & ENGINEERING CO.

—OF CINCINNATI— O. U. S. A. —

CONTRACTORS FOR THE COMPLETE  
EQUIPMENT OF FACTORIES & MILLS OF ALL KINDS

**AGAINST FIRE**

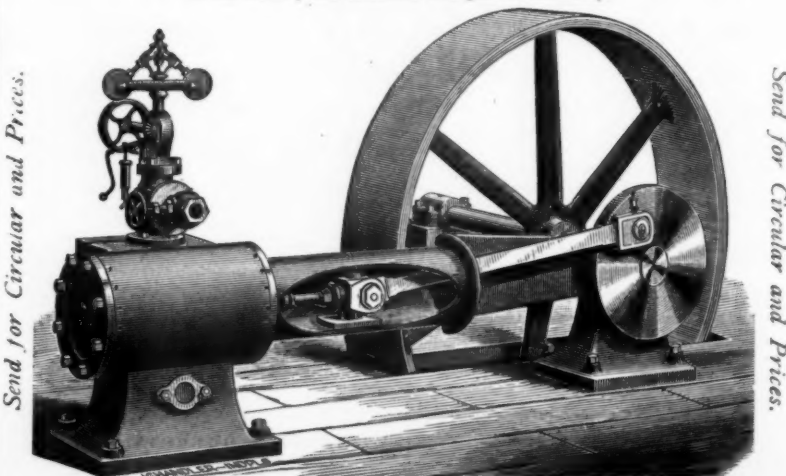
ABUNDANT WATER SUPPLY. NO FREEZING.  
INSTANT ALARM. LOW INSURANCE.

**CHANDLER & TAYLOR, INDIANAPOLIS, IND.**

Manufacturers of a  
SUPERIOR CLASS OF

**SLIDE VALVE ENGINES**

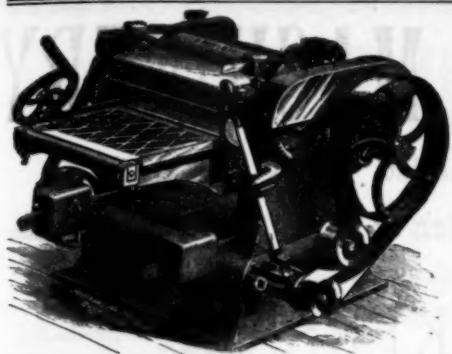
At the lowest prices consistent with good workmanship.



Send for Circular and Prices.

Send for Circular and Prices.

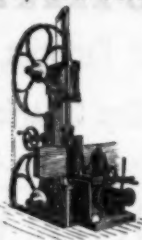




**P. PRYIBIL,**  
467 W. 40th St., New York.

MANUFACTURER OF  
**SUPERIOR**  
**WOOD-WORKING**  
**MACHINERY,**  
Shafting, Hangers,  
Pulleys, &c.

Write for 72-page illus-  
trated catalogue.  
Don't bother about  
Stamps.



TRADE MARK.



**COVERT'S PATENT HARNESS SNAPS, CHAIN & ROPE GOODS,**  
ADJUSTABLE SOLDERING IRONS, &c.

These Goods are sold by all Leading Jobbers in General and Saddlery Hardware, at manufacturers' prices. Send for illustrated catalogue and price list.

**COVERT MF'G CO., West Troy, N. Y.**

**Union File Co.**

311 to 315 North St., Baltimore, Md.

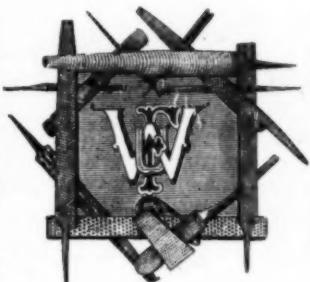
MANUFACTURERS OF

**FILES & RASPS**

Made from the Best Refined Cast Steel.

With the requisite facilities to produce a first-class arti-  
cle, we are enabled to offer Files that will give entire  
satisfaction.

**MORITZ & KEIDEL, Agents, 48 & 50 German Street, Baltimore, Md.**



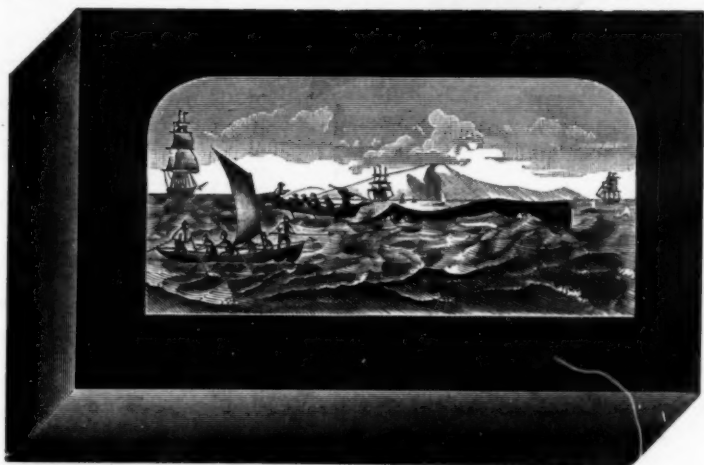
The Oldest Oil House in the City. Business Established 1832 (on Present Premises.)

**WM. C. ROBINSON & SON,**

81 SOUTH ST., BALTIMORE, MD.

Manufacturers and  
Wholesale Dealers in

**OILS!**



Specialties—Oils for Cotton and Woolen Mills, Railroads, Tanners' and Machinery Use.

Our Colophony Cylinder Oil is the best in use, 650° fire test, 28° gravity. Perfect Engine Oil 600° fire test, 30° gravity. Colophony Engine Oil 550° fire test, 23° gravity. Agent for Downer's Spindle, Champion and Mineral Sperm, Meriam & Morgan's Paraffine Co's Paraffine, William's Odorless Lubriphene Oils. Also Manufacturers' Agent for 24°, 28° and 30° Paraffine, and 31° Neutral Bloomless Oils. Correspondence solicited.

**FOR SALE CHEAP!**

**40 Horse Power VERTICAL BOILER.**

This Boiler was built to order, of very best materials and workmanship; has double-riveted seams; was used but a short time, and is much better than most of the new boilers now made. Cost to build, \$650. For sale at HALF-PRICE, with fixtures, &c. Is a RARE BARGAIN. Ready for immediate delivery. Also, 18-horse HORIZONTAL ENGINE; very strong and heavy.

**JOSEPH B. MATTHEWS,**

41 Centre Market Space, BALTIMORE, MD.

**ROADS, MINES and FARMS.**

**FORSTER'S**  
**Rock Breaker.**

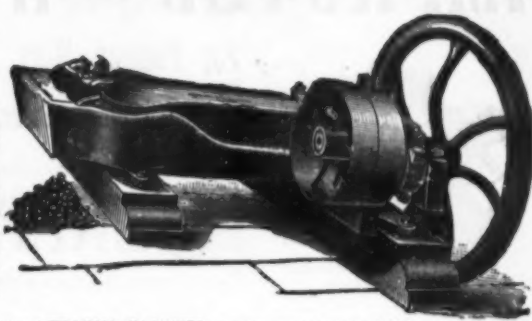
Owing to its peculiar SIDE MOVEMENT does not "Shatter" the stones as all other crushers do, but makes ballast and macadam equal to HAND HAMMERED.

Very simple and inexpensive to operate. The only Crusher that can be operated with ordinary Horse Power.

Planters will please notice that SMALL MACHINES can be operated by HAND. By changing Dies the machine will crush and pulverize Phosphate Rock for Fertilizing, in one operation.

ADDRESS

**TOTTEN & CO., Rolling Mill and Machinery Founders,**  
**PITTSBURGH, PA.**



**ANTI-FRICTION**

**Roller Detachable Chain Belting.**

Especially adapted for the rapid and economical handling of CLAY, TILE, LIME, PLASTER, CEMENTS, BROKEN STONE, COAL, ORES, SAND, DRY and WET TAN, SAW DUST, SLABS, PULP, GRAIN, FLOUR, ICE, &c., &c., &c. For ELEVATORS, CARRIERS, CONVEYERS, &c., &c. Propelling STEAM BOATS and for other DRIVING PURPOSES.

MANUFACTURED AND SOLD BY THE

**Roller Chain Belting Co.**

COLUMBUS, OHIO.

Send for Illustrated Catalogue.

Established a Quarter of a Century in the Manufacture of the Celebrated MILLER SAFES.

**L. H. MILLER,**

**SAFE AND IRON WORKS,**  
**BALTIMORE, MD.**

Sole Manufacturer of

Miller's Patent Fire & Burglar Proof Safes,  
BANK VAULTS, DOORS AND LOCKS.

PRINCIPAL OFFICE, 252 W. BALTIMORE ST.

[NEAR HANOVER.]

Factory—Square bounded by Warner, Claret, Henrietta and Fremont Sts., South Baltimore.



**CAREW'S \* PATENT \* WIRE \* CUTTER.**



These goods have recently been greatly improved. They are now made throughout of FORGED STEEL.

The advantage of this cutter is seen at a glance. The adjustable jaws are its main feature. These are made of the best tool steel, and are brought to a keen cutting edge before being tempered. The cutting quality is unsurpassed. Whenever they become dulled by use, they can easily be removed, by driving from the end showing price-mark, ground, and as easily replaced. This may be repeated as often as expedient; or they can be replaced by duplicate jaws, thus obviating the necessity of purchasing new cutters. Five sizes 6, 8, 10, 12 and 14 inch. If your merchant does not keep them, address

**M. W. ROBINSON, Sole Agent, 79 Chambers St., N. Y.**

**S. W. RITTER, Millwright,**

—BUILDER OF—

Flour and Saw Mills, Drug and Chemical Works, Portable Mills, Smut Machines, Mill Stones, Bolting Cloths, Brushes, Guano Fertilizer

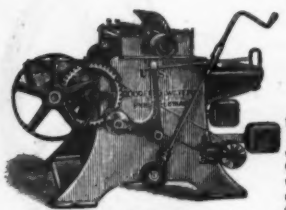
Mills, and General Mill Supplies,

261 S. Caroline Street, BALTIMORE, MD.



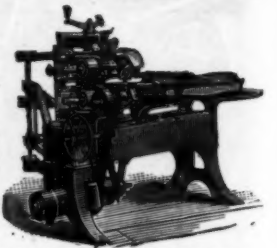
# IMPROVED \* WOOD-WORKING \* MACHINERY

For Planing Mills, Sash, Door and Blind Factories, Chair and Cabinet Makers,  
Furniture Factories, Carriage, Wagon and Buggy Shops, Car, Agricultural Implement Works, and



U. S. 24-inch Endless Bed  
Single Surfacer.

## GENERAL WOOD-WORKERS

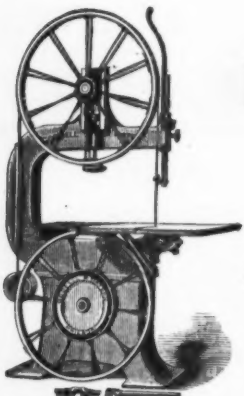


Modern Tenoning Machine.

—WE ARE THE MANUFACTURERS OF THE CELEBRATED—

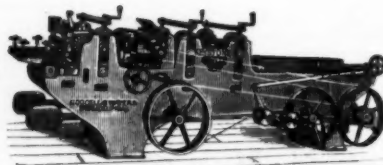
### KEYSTONE FLOORING MACHINE,

Of which over TWO HUNDRED have been sold during the past Two Years.



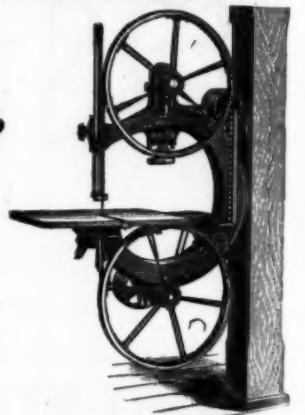
42-inch Band Saw.

Every Machine is thoroughly  
tested before leaving  
the Works.

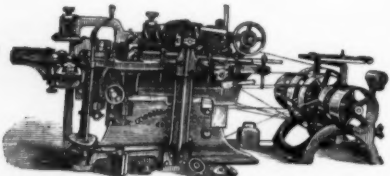


Keystone Flooring Machine,  
Surfacing 100 lineal feet per minute.

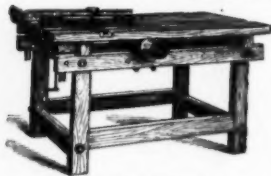
All our machines are war-  
ranted as represented.



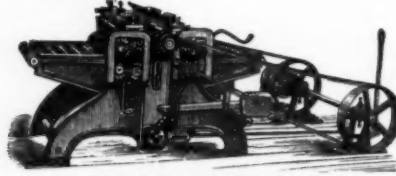
Bracket Hand Saw.



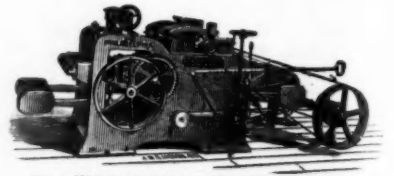
9-inch Four Sided Moulder.



No. 1 Saw Bench.



No. 2 Single Surfacer.



The "Philadelphia" Endless Bed D. S.

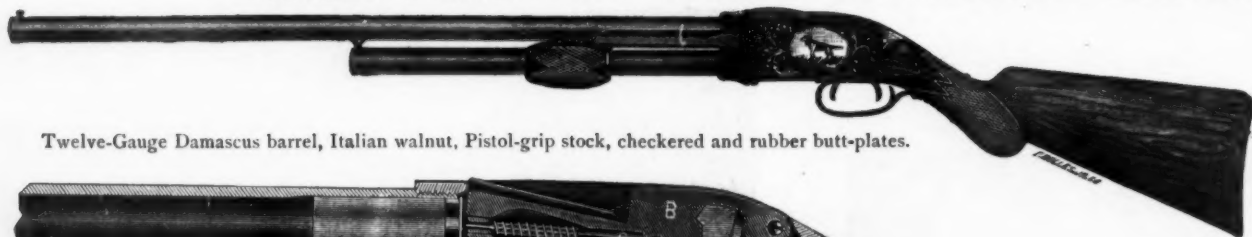
—SEND FOR CATALOGUE, AND BE PARTICULAR TO MENTION THIS PAPER.—

## GOODSELL & WATERS, Philadelphia, PENNA.

Branch Stores, 11 to 13 S. Canal St., Chicago, Ill., and 115 Liberty St., New York City.

## SPENCER Repeating SHOT-GUN.

WILL FIRE SIX TIMES IN THREE SECONDS.

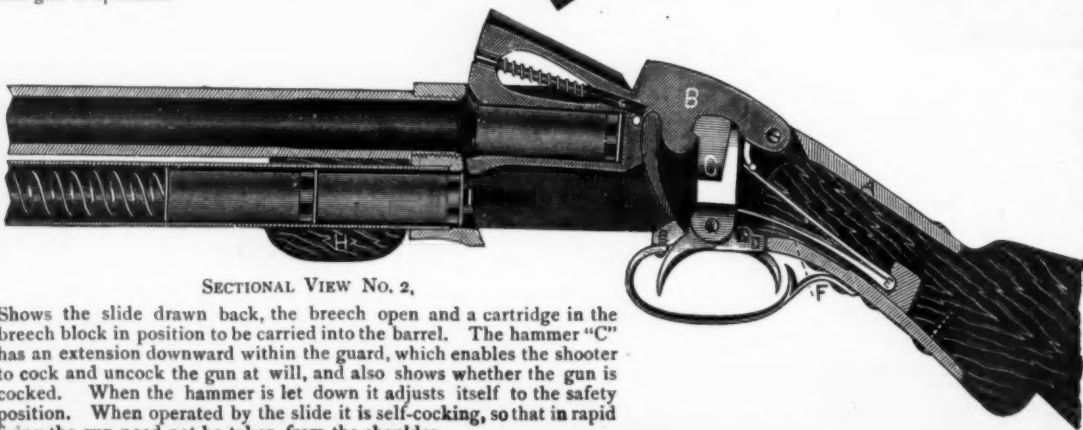


Twelve-Gauge Damascus barrel, Italian walnut, Pistol-grip stock, checkered and rubber butt-plates.



SECTIONAL VIEW NO. 1.

Shows the parts of the gun in readiness for firing. "A" is the frame, "B" the breech block, "C" the hammer, "D" the trigger, "E" the main spring, "F" the sear spring, "G" the firing pin, "H" the slide by which the gun is operated.



SECTIONAL VIEW NO. 2.

Shows the slide drawn back, the breech open and a cartridge in the breech block in position to be carried into the barrel. The hammer "C" has an extension downward within the guard, which enables the shooter to cock and uncock the gun at will, and also shows whether the gun is cocked. When the hammer is let down it adjusts itself to the safety position. When operated by the slide it is self-cocking, so that in rapid firing the gun need not be taken from the shoulder.

THE SPENCER ARMS CO.,  
WINDSOR, CONN.

Unequaled for Safety, Workmanship, Force, Accu-  
racy and Rapidity of Firing, Simplicity of Con-  
struction, Convenience of Loading, Etc.  
Has won the Connecticut Individual  
Championship Badge four times  
Within five months.  
SEND FOR ILLUSTRATED CATALOGUE.  
Medal First-Class over all Competitors, New Orleans Exposition, 1885.



# KNOWLES STEAM PUMP WORKS,

BUILDERS OF

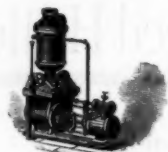
## Single and Duplex Steam and Power Pumping Machinery

44 WASHINGTON ST.

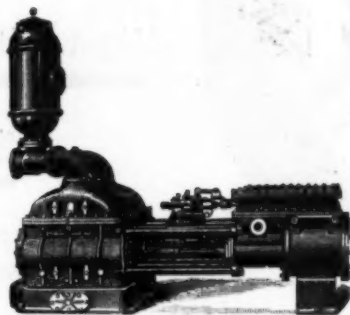
93 LIBERTY ST.

BOSTON.

NEW YORK.



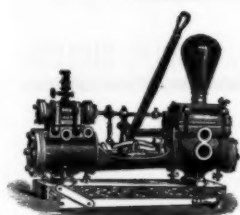
PUMP AND CONDENSER.



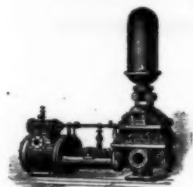
COMPOUND PUMPING ENGINE.



BOILER FEED PUMP.



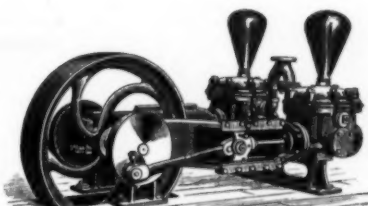
PRESSURE PUMP.



FIRE PUMP.

SEND FOR  
ILLUSTRATED  
**CATALOGUE,**  
WITH  
Price-Lists.

ESTIMATES  
FURNISHED  
—ON—  
APPLICATION.  
CORRESPONDENCE  
SOLICITED.



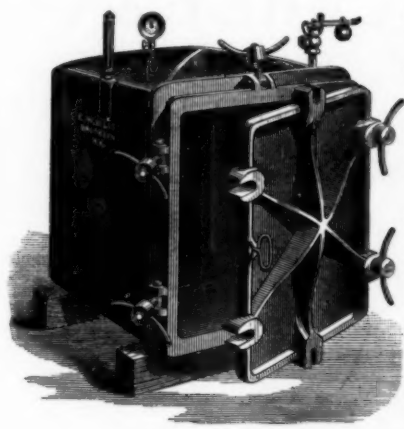
DUPLEX BELT PUMP.



GEARED POWER PUMP.



AIR COMPRESSOR.



## E. W. BLISS,

MANUFACTURER OF

Cutting, Drawing, Stamping, Embossing, Reducing &amp; Punching

## Presses and Dies

For Working all Shapes and Classes of Sheet Metal.

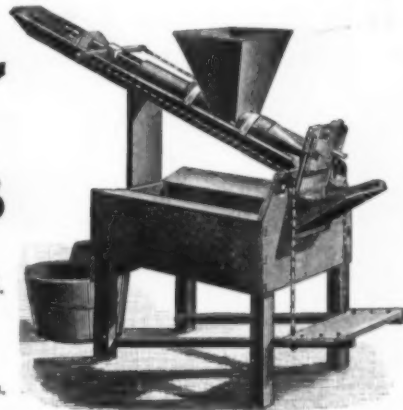
DOUBLE SEAMING MACHINES FOR ROUND, SQUARE AND OVAL CANS.

Hand and Power Circular Shears. Foot and Power Squaring Shears.

### CANNING MACHINERY,

Steam Chests, Can Fillers, Soldering Machines, Engine Lathes, Shapers and Milling Machines. Special Machinery of Every Description for Manufacturing Sheet-Metal Goods.

—143 Plymouth Street, BROOKLYN, N. Y.—



## Union Stone Company

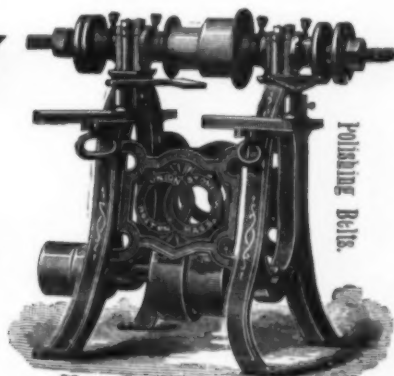
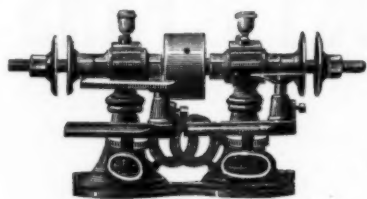
38 and 40 Hawley Street, BOSTON, MASS.

PATENTEES AND MANUFACTURERS OF THE

## Union Emery Wheel,

EMERY WHEEL MACHINERY AND TOOLS A SPECIALTY.

Automatic Knife-Grinding Machines, Wood-Polishing Wheels, Emery, Quartz, Corundum, Grinders and Polishers' Supplies. Catalogue on application.



ALWAYS ASK FOR  
**ESTERBROOK'S**  
CELEBRATED  
STEEL PENS.

## PENS

LEADING NUMBERS:

048, 14, 130, 333, 135, 161

For Sale by all Stationers.

The Esterbrook Steel Pen Co.

26 John Street, New York

## STEAM ENGINES and BOILERS

2 to 2,000 Horse-Power, for all kinds of work. Also, Wood and Iron-Working Machinery. All Machinery guaranteed.

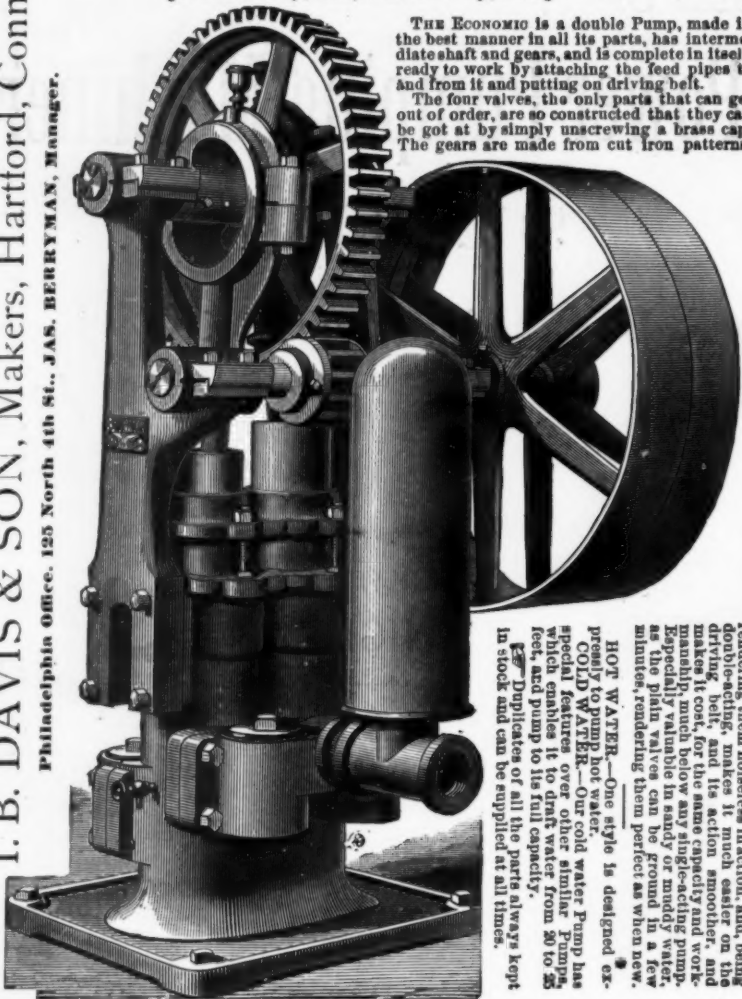
W. E. CURTISS, 1425 Filbert St. PHILADELPHIA.



## THE ECONOMIC PATENT Boiler Feed Pump

[Patented May, 1879, and February, 1883.]

NOTE.—Every one of our Cold Water Pumps is tested on a lift of 23 feet.  
I. B. DAVIS & SON, Makers, Hartford, Conn.  
Philadelphia Office, 125 North 4th St., JAS. HERRYMAN, Manager.



THE ECONOMIC is a double Pump, made in the best manner in all its parts, has intermediate shaft and gears, and is complete in itself, ready to work by attaching the feed pipes to and from it and putting on driving belt.

The four valves, the only parts that can get out of order, are so constructed that they can be got at by simply unscrewing a brass cap. The gears are made from cut iron patterns,

rendering them noiseless in action, and being double-acting, makes it much easier on the driving belt, and its action smooths the work. It is made for the same capacity and workmanship, much below any single-acting pump. Especially valuable in sandy or muddy water, as the plain valves can be ground in a few minutes, rendering them perfect as when new.

**HOT WATER.**—One style is designed expressly to pump hot water.

**COLD WATER.**—Our cold water Pump has special features over other similar Pumps, feeds, and pump to its full capacity.

Duplicate of all the parts always kept in stock and can be supplied at all times.

## ROBT. WETHERILL & CO. CHESTER, PA.

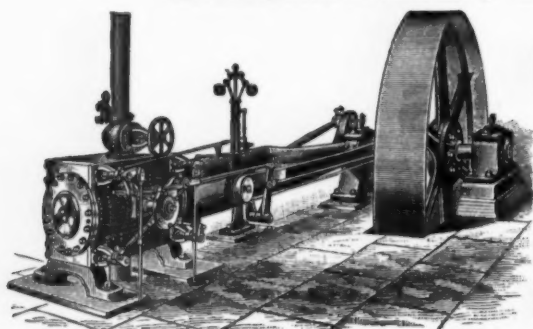
ESTABLISHED 1872.

### Corliss Engine

—BUILDERS—

Condensing, Non-Condensing, Compound.  
Great Economy, Durability, Close Regulation.

### BOILERS, Shafting and Gearing.



### CORLISS PUMPING ENGINES

—CITY WATER WORKS—

## Chapman Valve Mfg. Co.

—MANUFACTURERS OF—

STEAM, GAS and WATER

### VALVES and GATES

### FIRE HYDRANTS.

WITH OR WITHOUT INDEPENDENT VALVES.

General Office and Works, INDIAN ORCHARD, MASS.

Treasurer's Office,

Mason Building, 72 Kilby and 112 Milk Sts., Boston.

—ALL WORK GUARANTEED.—

Send for Descriptive Circulars and Price-List. Correspondence Solicited.



## Newell Universal Mill Co.

10 BARCLAY ST., NEW YORK.

### Clay Mills, Feed Mills,

### BONE MILLS, DRUG MILLS,

### Fish Scrap Mills, Cotton Seed Hullers

### Steam Engines and Boilers of Every Description.

### AMERICAN STEAM HEATERS for DWELLINGS & PUBLIC BUILDINGS.

### Cotton Seed Oil Machinery.

### Launch Engines, Farm Engines,

### Shafting, Pulleys and Machinery

OF EVERY DESCRIPTION.

Send for Circulars.

Estimates Cheerfully Furnished.

## THOMAS K. CAREY & CO.

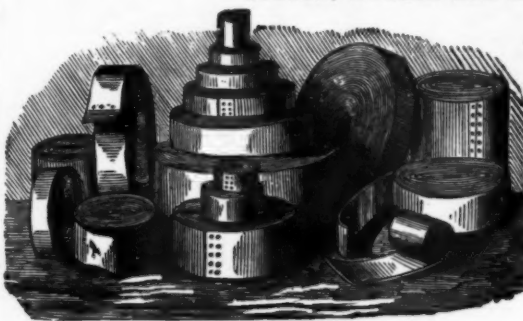
25 S. Charles Street, BALTIMORE, MD.

### PURE OAK LEATHER BELTING,

Dealers in RUBBER BELTING, PACKING, ROPE, &c.,  
COTTON, WOOLEN AND SAW MILL SUPPLIES, &c.

AGENTS

Boston Belting Co's  
Rubber Belting.  
Hoyt's Leather Belt.  
Mt. Vernon Belting.  
Jos. Noones' Sons  
Roller Slasher and  
Clearer Cloth.  
T. K. Earle's Card  
Clothing, &c.



## Buffalo Shaving and Ventilating

### EXHAUST \* FANS.

SATISFACTION GUARANTEED  
In \* Every \* Instance.

SEND FOR CATALOGUE AND  
—PRICE-LIST.—

### Buffalo Forge Co.

490 \* BROADWAY, \* BUFFALO, \* N. \* Y. \*

